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TEXAS STATE JOURNAL OF MEDICINE

Volume 48 Number 1 Austin, Texas, January, 1952

CONTENTS

JAN 25 1952

	Page
PRESIDENT'S PAGE	Preceding 1
EDITORIALS	
Calendar for Citizens	1
Imminent National Health Legislation	2
Texas and the March of Dimes	3
What About My Memberships?	3
Resolve: Better Public Relations	4
State Prize in AAPS Contest	5
Current Editorial Comment	
Postgraduate Courses at Your Door	6
ORIGINAL ARTICLES	
Peripheral Vascular Disease; Conservative Medical Management *Howard E. Heyer*	7
Alpha-Tocopherol and Calcium Gluconate in the Prevention of Thrombo-Embolism; Preliminary Report *W. E. Crump and Edgar F. Heiskell, Jr.*	11
Prolonged Anticoagulant Therapy for Ambulatory Patients *B. B. Elster and H. B. Eisenstadt*	14
Clinical Pathology of Multiple Myeloma *W. N. Powell*	18
Amebiasis: A Common Clinical Problem *T. Haynes Harvill*	24
Treatment of Pinworms (Oxyuriasis); Clinical Evaluation Based on 1,005 Cases *W. Price Killingsworth, Paul R. Meyer, I. M. McFadden, and H. L. Boardman*	27
Management of Burns in Children; Newer Concepts *Francis A. Garbade and T. G. Blocker, Jr.*	32
CASE REPORTS	Page
Letterer-Siwe's Disease; Report of Case in an Infant *George T. O'Byrne*	35
Extragenital Granuloma Venereum; Report of Case Without Associated Pudendal Lesion *Donald S. Morris and G. E. Bennack*	39
NEWS	
Coming Meetings and Clinics	42
Blood Bank Association Meets	45
New Orleans Graduate Medical Assembly	45
Texas Medical Center Fifth Anniversary	45
Surgeons to Meet in Dallas	46
Chicago Clinical Conference	46
College of Physicians to New Orleans	46
Fourth Annual Neuropsychiatric Meeting	46
LIBRARY SECTION	
Package Service	47
Motion Picture Film Library	47
Book Notices	48
ORGANIZATION SECTION	
American Medical Association	
A.M.A. Conferences in February	51
Clinical Session at Los Angeles	51
Texas Medical Association	
Want a Room?	52
State Prize for Essays Announced	52
County Societies	53
District Societies	56
AUXILIARY SECTION	
Auxiliary News	56
DEATHS	58

New!

Kroger and Freed's Psychosomatic Gynecology

The basic aim of this *new* book is to point out the importance of emotional factors in the etiology of disorders of the female genital system. The authors accomplish their purpose by reviewing the literature on the subject and by presenting the results of their own wide experience and research in the field. Many case histories are included. The material will be of immediate value to gynecologists, obstetricians, endocrinologists, and—of course—to general practitioners, who see more of these cases and see them earlier than any other group. Most of the problems covered are of everyday importance. Psychiatric terminology has been avoided as far as possible. There is a chapter on Psychosomatic Aspects of Pregnancy by Grantly Dick Read.

By WILLIAM S. KROGER, M. D., Assistant Clinical Professor of Obstetrics and Gynecology, Chicago Medical School; Attending Obstetrician and Gynecologist, Edgewater Hospital, Chicago; and S. CHARLES FREED, M. D., Adjunct in Medicine, Mount Zion Hospital, San Francisco, California. 503 pages, 6" x 9". $8.00. *New.*

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President's Page

TAKING INVENTORY

The beginning of a new year is a time to take inventory of the successes and failures of the past year, as well as to look at the prospects and possibilities of the new one. A recapitulation of the past few months may give some idea of how to approach the immediate future. Looking back eight months, we may well ask what progress has been made by our Association. As Al Smith used to say, "Let's look at the record."

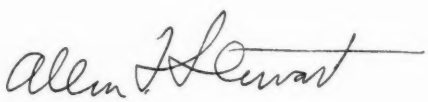
In public relations we think some definite objectives have been attained. The committee has set as its goal the promotion of a system of emergency telephone registry for day and night calls. The effort is to convince the public that the medical profession has as its prime object the assurance of medical service to everyone, night or day, without regard to ability to pay. If this objective is obtained, we will go far to obtain a situation mentioned in an editorial in the A.M.A. *Journal:* "Any act that convinces people that the patient's comfort and health still are always uppermost in the thoughts of physicians will do much to affect the statements of those who wish to pervert the thinking of persons receiving medical care."

The headquarters building in Austin may be considered our big objective for the year. It will be a monument to pioneer doctors, a workshop and meeting place for the present, a library and museum for Texas medicine. It will be the first building of its kind erected solely as a headquarters for the medical profession of any state. Texas as a whole may well be proud that here again she is first. The completion of the building this spring calls for celebration worthy of such an event. A committee is already busy upon the program. Opening ceremonies to which the public is invited and in which it shall be represented will mark a fine opportunity for the furtherance of wholesome public relations.

The Council on Medical Education and Hospitals has been active in promoting courses in postgraduate education. It has arranged an innovation in a series of four courses by telephone. This promises to be a very available form of postgraduate education and one that is economical. This method of instruction is not an experiment; the American Dental Association has tried it for the past two years and is enthusiastic.

The Council on Scientific Work, with the able assistance of the headquarters office and the local committee in Dallas, has been diligently at work shaping up the program of the 1952 annual session. No one on the outside can realize what a prodigious task this is, what checking and rechecking, what improvisation is necessary. The task is threefold: (1) to arrange a scientific program worthy of the doctors of the state; (2) to find the space for exhibits, section meetings, luncheons, and general meetings; and (3) to arrange all these without conflict. The truth is that few places in Texas have adequate space for the meeting and none can house everything under one roof. The Dallas hotels have been cooperative and the prospects for a good meeting are fine.

Since the official year for county societies began January 1, I would like to stress the importance of dues, local, state, and national, the two latter to be sent to Austin. The extent of the services of these various societies is in direct proportion to the funds which they have available. Unfortunately, their dollar will not go far these days. It is all the more important, therefore, that dues be paid promptly. Furthermore, this month delegates to the State meeting will be chosen. The State President must appoint important reference committees for the May House of Delegates from the list of those chosen as delegates. Prompt report of delegates' names to the State office will greatly facilitate the early appointment of these committees. Your cooperation is earnestly solicited.



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CALENDAR FOR CITIZENS

Texans, whether or not they believe in poll taxes, must pay their $1.75 before January 31 or lose the right to participate in the important state and national elections this year. Important dates for those who wish to exercise their privileges as voting citizens are as follows:

January 31—Last day for paying poll tax or claiming exemption.

May 3—Precinct meetings to choose delegates to county conventions.

May 6—County conventions to name delegates to state conventions.

May 26—State conventions to select delegates to national conventions.

July 26—First Democratic primary (*July 6-22*, absentee voting).

—Precinct conventions dealing with party platforms and certification of candidates.

August 2—County conventions.

August 25—Run-off Democratic primary (*August 3-19*, absentee voting).

September 9—State conventions.

November 4—General election (*October 15-31*, absentee voting).

The recent voting record in the United States reflects a tendency to "let George do it"—and then probably blame George for doing it badly. In the 1940 presidential election, only 62.7 per cent of the qualified voters in the nation registered their opinions at the polls; in 1944, 57.3 per cent voted; and in 1948, only 55.3 per cent. Texas fell far below even those poor figures with 28.1 per cent of the qualified voters participating in the 1940 election; 28.8 per cent in 1944; and 26.7 per cent in 1948.

It is shameful to note that a survey made by the Dallas County Poll Tax Committee and reported by the *Dallas Morning News* revealed only 26 per cent of the members of the seven leading professions in Dallas as voting in the last presidential election. The profession with the largest percentage of voters was the legal group with 38 per cent; physicians were next with 36 per cent; nurses were last with 12 per cent. Similar polls have shown that up to 85 per cent of the members of labor unions and 90 per cent of government employees vote.

The medical profession and those interested in it will have an opportunity this year to improve the record of four years ago. Surely no doctor or doctor's wife will permit the month to end without qualifying to vote nor the year to end without taking every opportunity to speak up in the affairs of the state and nation.

IMMINENT NATIONAL HEALTH LEGISLATION

Several bills of interest to the medical profession which were introduced at the first session of the eighty-second Congress are far enough along the legislative path that they may be enacted during the present session, which opened January 8.

The national compulsory health insurance program, which was allowed to sleep in committee last session, is not expected to make any more progress during the current session, but it may be an election issue during the presidential campaign. Not in bill form but likewise being discussed for political reasons is Oscar Ewing's proposal for sixty days of hospitalization a year for social security beneficiaries older than 64 years and for certain groups of younger persons.

Medical and health legislation already considered by committees in either the House or the Senate include three important measures which are likely to be acted upon. S. 445, providing federal assistance to local public health units, passed the Senate and was sent to the House; a companion bill, H. R. 274, remains with the House Interstate and Foreign Commerce Committee. The bill calls for grants to states on a per capita income population basis to assist in establishing and supporting public health departments and defines services for which federal funds could be used. The American Medical Association supports this legislation provided that certain changes are made.

S. 337, concerning legislation for federal aid to medical, dental, and nursing education, was reported back to the Senate and is now on the calendar. A companion bill, H. R. 1781, was not acted upon. The bill is opposed by the A.M.A., which favors instead a plan for one-time grants to schools of funds necessary for construction and equipment, the funds to be administered by the states under a system similar to the Hill-Burton hospital program.

Aid to nursing schools is provided for in H. R. 910 and S. 2301. The former received public hearings by the House's Interstate and Foreign Commerce Committee but failed to be reported out. The Senate made the nursing program a part of the omnibus bill S. 337 at first, then after recommittal of S. 337, S. 2301 was offered as separate legislation. No hearings have been held on the Senate bill. The A.M.A. opposes H. R. 910 and S. 2301.

In addition to these three pieces of pending legislation, several other bills are of considerable medical interest. One (S. 1875) would assist cooperative and nonprofit health insurance associations through government loans. It is opposed as "being incompatible with the sound philosophies concerning the rendition, distribution, and financing of medical care enunciated by the A.M.A."

A bill which has been passed by the House but not considered by the Senate is H. R. 5426, which would reclassify the military reserves as ready, standby, and retired. The bill is aimed to eliminate confusion as to liability for active duty and to improve the reserve training program and is approved by the A.M.A.

The universal military training program is another problem which Congress is considering. The A.M.A. is interested in this possible legislation only insofar as it would affect future doctors; if the program is to be placed into effect, the A.M.A. would insist upon ample provision being made for the training of sufficient medical personnel.

To alleviate the hospital building problem H. R. 5821, which is another item on the Congressional calendar, would give top priorities

for metal to schools and hospitals programmed before September 8, 1950. H. R. 313, passed by the House to restore to the Veterans Administration hospital construction program the 16,000 beds eliminated in December, 1948, by President Truman, is still pending before the Senate's Public Welfare Committee.

Two bills, S. 1245, providing Emergency Maternity and Infant Care for wives and children of enlisted men, and S. 2337, providing that care plus general hospitalization for such dependents, will receive further consideration by the Senate. S. 2337 is opposed by the A.M.A. on the ground that there is no demonstrated need. The Senate also may scrutinize further and act upon S. 1328, a proposed nationwide survey of sickness and disability, postponed for action from the session just passed, and S. 2246, which would allow federal grants to states and counties for the prevention of chronic diseases. The last-named bill is opposed by the A.M.A. because: (1) a large part of the provisions of this bill can be carried on with present facilities and (2) no provision is made to determine the financial status of the patient.

The bills and possible other legislation summarized in this editorial are only a few of the 9,615 legislative measures introduced during the first session of the present Congress, 179 of which were considered of sufficient medical implication to be analyzed and reported upon by the A.M.A. Washington Office. Physicians as alert citizens owe it to themselves to investigate, and if necessary to write their Senators and Representatives concerning health and medical matters being considered now in Washington.

TEXAS AND THE MARCH OF DIMES

The annual March of Dimes campaign is under way throughout the nation, and Texas has even greater reason for carrying on an extensive campaign than previously. Year after year Texas chapters of the National Foundation for Infantile Paralysis have spent more for the treatment of poliomyelitis than has been raised in Texas. Grants from the National Epidemic aid fund have made possible this continued fight. During the past three years $380,000 more than all funds sent to the National Foundation by Texas chapters was returned to this state.

In the past four years 132,000 cases of poliomyelitis have been recorded in the nation, a figure which exceeds the 113,500 total of persons stricken in the previous ten years. With this increase in the number of victims and with epidemics reaching all parts of the nation, the polio program has been expanded not only to include treatment of victims but also to foster more research and study in an effort to control the crippling disease. Approximately 2,900 March of Dimes scholarships and fellowships were awarded in the nation prior to September, 1951. Research is carried on at Texas medical schools and at the Southwestern Poliomyelitis Respiratory Center, Houston, one of the four in the nation.

As Texans contribute to the 1952 March of Dimes campaign this month, they should remember that so far as is known there has been no polio victim of the past five years who has not in some way been aided by services provided through the National Foundation. The continuation of this record in 1952 is possible only through a successful March of Dimes.

WHAT ABOUT MY MEMBERSHIPS?

Here I am practicing medicine in the last half of the twentieth century. What a challenge —what an opportunity—what a responsibility! Decades ago my forebears landed on the eastern shores of this continent. There were no roads, automobiles, telephones, radios, air conditioning, schools, clinics, hospitals, skyscrapers, or airplanes. What then did these pioneers find? They found the wilderness and the savage. They found the soil, the sunshine, and the rain. They found the timber, the minerals, the lakes, and

the rivers. They went to work. They began the erection of homes and irrigated the soil from the sweat of their brows. They joined hands and marched over the hills and through the valleys to establish these United States of America. Many fell by the wayside. Loving hands and burdened hearts planted their bodies beneath the soil, then marched on. "Westward Ho," remained the chant until the covered wagon caravan drew rein on the shores of the Pacific.

Today we are 170 million strong—a great nation, an enterprising people, a mighty band. Was this all accidental? Today as I fly through the air on giant wings, or speed from shore to shore upon ribbons of concrete in air conditioned comfort, or avail myself of the myriad of comforts, conveniences, and tools, am I so ignorant or unappreciative as to believe all this just came into being?

Let me stop and think soberly for a few moments. There were many contributing factors —too many for discussion now. Let me think then about just one of them, cooperation. What is the meaning of this word? Webster says, "Collective action for mutual profit or common benefit." Suppose my forebears in this westward march had not locked arms against dissension from within and opposition from abroad. Under what conditions would I be practicing medicine today? "Where there is no vision the people perish," I am told. "Cities do not grow, they are built," I read somewhere. Someone must have dreamed dreams and seen visions—yea, more than that, someone must have realized the value, the all importance of cooperation.

Today I read the story of medicine for the past 150 years. Almost unbelievable. The effort of one man, or even one generation? Oh no, the combined efforts of thousands over decades. And I, "M. D., 1952" am the recipient of the combined efforts of all that cooperation has brought to be. What am I contributing—What can I contribute to the further progress of medicine? As one of thousands my individual efforts may go for naught. But as an interested, enthusiastic, and working member of the group, I can help make each succeeding year better. I can become a member of my county medical society. I need it and it needs me—not just my dues, but my presence, my knowledge and experience, my compliments and my criticisms. Further, I can become a member of my state association and help forge the county societies into a strong state organization that will be able to protect the interests of medicine from powerful forces intent upon regimentation. Finally, I can become a member of the national association and help to weld the state societies into a national bulwark.

Powerful and sinister forces are committed to the complete domination of my profession. Am I the kind of person that wants the "other fellow" to carry all the load? Unless I always have my way or dominate the picture, am I ready to quit? Must I always bat and never chase fly balls, else take my ball and bat and go home?

Progress has never been by the individual, either in industry or the professions. Occasionally, the individual may stand out, but only as cooperation has made it possible.

I'm "M. D., 1952." I believe in good medicine. I believe in fair play. I believe in carrying my part of the load. Therefore, I resolve to become an active, aggressive member of my county, state, and national societies and thus shoulder my part of the responsibility. I do this with the full knowledge that it will entail sacrifices both monetary and personal. But at the end of the way I shall have the satisfaction that I fought a good fight and kept the faith.

"M. D., 1952."

RESOLVE: BETTER PUBLIC RELATIONS

The year 1952 will see medicine's public relations activities accentuated along four lines based on a common sense analysis of the four real or fancied objections which many Texans

hold toward medicine today. To the patient's mind, they sum up this way:

1. Some doctors charge too much.

2. I often can't get a doctor to come to my home in an emergency, particularly at night.

3. I have heard that there aren't enough doctors in rural areas.

4. I am kept waiting too long in reception rooms and often treated by the front office personnel with indifference and rudeness.

The Committee on Public Relations of the Texas Medical Association still has under study plans for improving public understanding of medicine's efforts in the doctor distribution field and ways to improve techniques by receptionists and doctors' secretaries. However, the first two facets of the program are being activated immediately with the distribution to interested county medical societies of promotion kits suggesting local applications. A kit explaining the objectives and the operation of the Grievance Committee, established by the Association's House of Delegates, contains sample advertisements, news stories, editorials, radio scripts, and pamphlets for waiting room distribution. A similar kit is available on emergency telephone service.

These kits, already mailed to most county societies, are available without charge. Costs for newspaper space and radio time recommended in the kits will be borne by the sponsoring societies, with all necessary material being furnished by the Committee on Public Relations.

The kits were developed by a study of successful similar plans used throughout the nation by other state and county medical associations. In Texas, they were tested in San Antonio and Pampa prior to release on a statewide basis. A number of other county societies planned to launch their local campaigns immediately after the first of the year.

Dr. R. W. Kimbro, Cleburne, chairman of the Committee on Public Relations, is urging local society officers and committees to study the 1952 public relations program with care. He points out that in the forty-two states now emphasizing similar programs, every report to date has indicated better than satisfactory results.

The program now being undertaken offers a positive approach toward correcting situations about which the public may have a right to complain and counteracting with factual information false rumors detrimental to the medical profession. County medical societies and individual physicians throughout Texas should be able to create a healthier atmosphere in which to perform their services by cooperating with the Committee on Public Relations in its current efforts.

STATE PRIZE IN AAPS CONTEST

Additional incentive for junior and senior high school students in Texas to participate in the essay contest sponsored by the Association of American Physicians and Surgeons on the subject "Why the Private Practice of Medicine Furnishes This Country with the Finest Medical Care" was given by the Texas Medical Association early this month by announcement of a $250 first prize for the best essay submitted in the state. A $1,000 first prize already has been announced for the national contest.

Importance of the contest, rules for which are given in the Organization section, was underscored by the findings of a poll made by Purdue University in 1948 of 10,000 high school students which showed 80 per cent of these young people in favor of federal control of medical care. "The contest is a highly effective program to inform and educate the public and to debunk the false and misleading propaganda for socialized medicine," Dr. Denton Kerr, Houston, president of the Association for American Physicians and Surgeons, points out.

Local sponsorship of the essay contest by county medical societies or woman's auxiliaries will assure wider interest in the project, a valuable public relations instrument for medicine.

CURRENT EDITORIAL COMMENT

POSTGRADUATE COURSES AT YOUR DOOR

1. The physician's medical education is continuous.

2. Doctors are sincerely interested in giving a "clinical trial" to the use of modern techniques in medical postgraduate work.

3. The newest medical postgraduate technique, programs broadcast by telephone, brings recent scientific advances to the door of every county medical society.

4. Topnotch programs from a central source will help to solve the perpetual problem of obtaining county medical society programs that will attract attendance.

The four statements above summarize the philosophy behind the plan of the Texas Medical Association to sponsor three statewide postgraduate telephone broadcast programs for Texas physicians.

The first subject to be presented February 12 is "Recognition and Treatment of Circulatory Accidents or Emergencies." Dr. H. M. Winans, Dallas, will be chairman and panel members are to be Drs. Arthur Grollman, Dallas; Charles T. Stone, Sr., Galveston; M. D. Levy, Houston; and Denton Cooley, Houston. Dr. Michael DeBakey, Houston, will be chairman of the panel March 11 when the discussion will be "Recognition and Treatment of Abdominal Emergencies." Participants will include Drs. Robert M. Moore, Galveston; W. G. Reddick, Dallas; Joe Kopecky, San Antonio; and R. J. White, Fort Worth. "Some Psychiatric Principles in the Practice of Medicine" is the subject for the broadcast on April 8. Taking part will be Dr. Hamilton Ford, Galveston, chairman; and Drs. Titus Harris, Galveston; Alfred Hill, San Antonio; Warren T. Brown, Houston; Earle Sellers, Abilene; and James E. Robertson, Dallas.

The Special Committee on Postgraduate Work made an extensive study and found that one of the greatest needs of practicing physicians is easily available information on advances in medicine and surgery. The committee believes that its greatest opportunity is to create a desire in Texas physicians to increase their scientific knowledge and to make it possible for these physicians, however busy and distant they may be from a medical center, to hear experts discuss problems frequently confronted. In recent years dentists of the nation and Indiana physicians have successfully staged separate series of postgraduate telephone broadcasts to all parts of the territory involved. Investigations showed that such a plan is possible and practical in Texas at a surprisingly low cost.

Each of the Texas broadcasts will consist of a panel discussion participated in by five physicians selected for their teaching ability as well as for scientific attainments. The formal presentation of each panel member will be brief, allowing time for informal debate or discussion. Questions may be submitted previously by physicians in the state and may be telephoned in during the program. Appropriate abstracts and slides will be sent in advance to each listening group to make the local presentation of the program more interesting. After the broadcast, each group can discuss the subject matter presented.

Relayed by long distance telephone, each program will be available to county medical societies, hospital staffs, or any interested group desiring to "tie on" at the telephone office in its respective locality. Each society will arrange locally for a long distance connection to the place of meeting and for amplifying equipment. The actual cost to each society per broadcast should not exceed $15, and in most instances the expense will be less.

County societies which have not already ex-

This department of the JOURNAL *presents editorial comments on current items pertaining to the science, art, and practice of medicine, contributed by members of the Texas Medical Association and scientists closely associated with the medical profession of Texas. Invitation is hereby extended to any member of the Texas Medical Association to submit such discussions for this department. The discussions should not be more than 500 words in length.*

pressed their desire to take part in the broadcast series should act at once. A successful Texas program, following that of Indiana, might encourage the establishment by the American Medical Association of telephone postgraduate broadcasts from Chicago, blanketing the entire country with programs staged by the best medical teachers in the United States.

MILFORD O. ROUSE, M. D., Chairman,
Special Committee on Postgraduate Work,
Dallas, Texas.

ORIGINAL ARTICLES

PERIPHERAL VASCULAR DISEASE

Conservative Medical Management

HOWARD E. HEYER, M.D., Dallas, Texas

THE management of peripheral vascular disease has undergone a major change within the past decade, primarily as a result of advances in the field of pharmacology. The introduction of new therapeutic weapons renders surgical treatment unnecessary in many instances of peripheral vascular disease. Among the major advances in treatment responsible for the shift in emphasis from a surgical to a medical approach may be listed the following epochal developments: (1) the development of effective anticoagulant drugs,[8, 9] (2) the introduction of sympathicolytic drugs for the relief of vasospastic states,[7, 11] and (3) the introduction of penicillin by Fleming and his associates, followed by the perfection of other antibiotic agents.

To these advances may be added the less significant but important developments of the more widespread use of paravertebral sympathetic block in the treatment of arterial insufficiency of the limbs and the demonstration of the important aggravating role of tobacco in the production of deficiency of arterial flow to the limbs.[5, 10, 12, 13] It can be stated now that tobacco in any form will increase the severity of the symptoms of any type of occlusive vascular disease. Although the role of tobacco as a primary etiologic factor in Buerger's disease is still questionable, long term studies of its effects on patients with deficient arterial flow to the limbs reveals that little permanent benefit can be obtained if its use is not completely interdicted.[5, 10, 12, 13] It has been shown further, at least in the case of Buerger's disease, that the elimination of tobacco often is followed by permanent benefit and alters the outlook and prognosis considerably for the better.[12]

Read before the Section on Internal Medicine, Texas Medical Association, Annual Session, Galveston, May 2, 1951.
From the Department of Internal Medicine, Southwestern Medical School of the University of Texas.

DISEASES OF DEFICIENT BLOOD FLOW

Raynaud's Disease.—Prior to the development of effective sympathicolytic drugs the alleviation or potential cure of Raynaud's disease was possible only with sympathectomy. Recently it has been shown that the continuous or intermittent administration of benzazoline (2, benzyl-4,5 imidazoline hydrochloride) will produce vast improvement and minimize or abolish the typical episodes of vasospasm of the hands, feet, and face.[7] The episodes of color change attendant upon chilling or emotional disturbances have been observed to be much less distressing to the patient with such therapy. Adjuvant therapy such as 1 ounce of whiskey two or three times daily and the avoidance of tobacco help decrease the severity of the uncomfortable spells of vasospasm. Avoidance of bodily chilling, of course, should be advised, and the possible alleviation of emotional upsets must be achieved through psychiatric guidance by the physician. The benefits to be obtained from such conservative medical therapy are well illustrated by the case history which follows:

A 43 year old white woman when first seen complained of episodes of marked pallor of the distal portions of the fingers. These color changes were accompanied by numbness and after recovery the fingers were noted to be reddish, the redness being accompanied by burning sensations. Initial examination revealed pallor of the distal portion of the fingers of both hands. Skin temperature readings fell from 82 F. (27.8 C.) at the midarm to 71 F. (21.6 C.) at the tips of the index fingers. The pulsations of major vessels of the limbs were normal, as determined by palpation and oscillometric examination. Benzazoline was prescribed in doses of 25 mg. four times daily.

When the patient was seen two weeks later, dramatic improvement had occurred. Whereas previously eight to ten such episodes had occurred, she was having only about one such attach each day. The severity of the blanching and the pain were much reduced. During the ensuing year and a half to the present the patient has continued to take benzazoline

with noticeable amelioration of her complaints. She was able to continue her job and to vacation in a cool mountain area without any severe complaints.

In our experience numerous patients with Raynaud's disease have shown such improvement with benzazoline. Moreover, this alleviation has been accomplished solely by medical means. These therapeutic results amply confirm the belief of Grimson[7] that benzazoline is often the treatment of choice in this disorder. The dosage of benzazoline necessary to produce optimal results may vary between 25 and 75 mg., administered three to four times daily.

Although the role of surgery in Raynaud's disease unquestionably has been minimized by such therapy, complications may require surgical treatment. Superficial ulcers of the digits which fail to heal and intractable pain in spite of medical therapy are indications for surgical intervention. It should be pointed out, however, that in our experience the majority of patients with Raynaud's disease will achieve such significant symptomatic relief that operation is usually unnecessary. Early diagnosis and the prompt institution of adequate medical treatment is necessary to avoid severe complications of this vasospastic state. Finally, an awareness that Raynaud's phenomenon merely may be symptomatic of generalized visceral angiitis—often with a fatal prognosis—should be borne in mind.

Thromboangiitis Obliterans.—The complete elimination of the use of tobacco is a prime essential in the therapy of Buerger's disease. No known type of therapy, including sympathectomy, can produce satisfactory and uniform improvement if the patient continues its use. The weight of evidence to the contrary —namely, that spontaneous and often dramatic remissions frequently follow absolute abstinence from tobacco—is impressive.[5, 10, 12, 13] When severe pain or impending gangrene of the digits are the presenting complaints, the abolition of vasospasm should be the primary objective. Paravertebral procaine block of the lumbar sympathetic ganglia should be performed at once. Since the degree of vasospasm in this occlusive vascular disorder is frequently great, vast relief of pain and significant improvement in vascularization of ischemic digits often result. If the pain and ischemia are less noticeable, a sufficient degree of sympathetic paresis may be induced by the oral use of benzazoline in doses of from 25 to 75 mg. four times daily. Spiritus frumenti, in doses of 1 ounce two to three times daily, is also helpful in inducing vasodilatation and should be given routinely. The degree of physical activity should be reduced to a level below that known to cause discomfort. This may necessitate absolute bed rest if pain is severe. If any ulceration or inflammation, even of slight degree, is present, antibiotic therapy, preferably parenteral penicillin, should be given.

In addition to medical treatment, physical therapy frequently will be of considerable help in restoring normal circulation. Buerger's exercises, if performed regularly, will help many patients with this disorder. As a practical matter, however, it has been found difficult to be certain that patients will follow such laborious exercises during a long period. A much more helpful measure is the use of a motor driven oscillating bed which, by its cradle-like action, allows alternate dependency and elevation of the lower limbs, facilitating filling of the vessels of the lower limbs. This, in effect, is a lazy man's type of Buerger's exercises, which may be performed, with benefit, for periods varying from eight to twenty-four hours per day. In my opinion, this is the most efficient type of physical therapy that is available in treatment of occlusive vascular diseases of the extremities. Alternate hot and cold immersion baths are harmful, if the temperature of the water is either too hot or too cold, respectively. For this reason, I have discontinued their use.

The presence of infection, ulceration, or impending gangrene should be treated with antibiotic drugs. Penicillin by parenteral injection should be given until signs of inflammation disappear. If it appears necessary, other antibiotic agents such as aureomycin and terramycin may be added to combat infection. Such inflammatory areas are best kept dry to avoid maceration of ischemic tissue. Dry heat is best applied in the form of a cradle with constant temperature regulation, set not to exceed a maximum of 90 F.

The beneficial results to be obtained from such therapy are well illustrated by the following case:

A 42 year old white man was first seen December 12, 1948, complaining of pain in the calves, of four years' duration. The cramping discomfort was especially noted after walking, which was limited to a distance of about 100 feet. Some nocturnal leg ache also was noted. The patient had smoked an average of 30 cigarettes per day for many years. On examination the feet and legs revealed marked rubor on dependency. The popliteal and dorsal pedal pulsations were absent in both limbs, although the right posterior tibial pulsation was barely perceptible. Oscillometric readings revealed a marked diminution in pulse volume in both legs and both ankles.

The patient was hospitalized and bilateral lumbar sympathetic block was performed using procaine, followed by procaine in oil. He was placed on an oscillating bed, and tobacco was discontinued. Spiritus frumenti was given (1 ounce) three times daily. Relief of pain was dramatic. He was also given benzazoline (25 mg. four times daily). After his discharge from the hospital he continued to improve slowly over the next two years. At present he is free of pain and is able to walk as far as one-half mile without discomfort. Nocturnal pains are absent. Objective evidences of improvement in pulse volume are now revealed by the oscillometer. He has continued to abstain from tobacco.

Surgical treatment in Buerger's disease should be reserved for patients in whom a careful and prolonged trial of medical therapy has failed. If the diagnosis is made before the disease becomes advanced, with many

of the peripheral vessels occluded, the prognosis is usually good with the type of medical therapy outlined above. Surgical treatment should be reserved for: (1) patients who have gangrene of the digits or lower limb, (2) patients with intractable pain who have secured no relief by medical therapy, (3) patients in whom the disease has progressed rapidly, in spite of careful medical treatment. Surgical treatment should not be employed as a substitute for abstinence from tobacco, since the disease may progress, in spite of sympathectomy, if the patient continues to smoke.

Arteriosclerosis Obliterans.—The treatment of hardening of the peripheral vessels, of the degenerative type, follows in general the principles laid down for the management of Buerger's disease. The prognosis is altered, however, by virtue of the lesser degree of vasospasm which is usually present in these patients. It is thus extremely difficult to predict the amount of benefit obtained by paravertebral sympathetic block. While paravertebral sympathetic block should always be tried for the relief of pain and for treatment of impending gangrene, results are often less dramatic than in the case of thromboangiitis obliterans. The indications for sympathectomy in arteriosclerosis of the limbs are poorly defined.[3, 4, 6] Failure to secure relief by paravertebral sympathetic block may not necessarily rule out benefit from lumbar sympathectomy. If intractable pain is present, lumbar sympathectomy may give variable degrees of relief. The amount of benefit is difficult to predict, however, and in some instances it appears possible that sympathectomy has actually aggrevated the ischemia of the limbs.[6] As in the case of Buerger's disease, early diagnosis and patience in the employment of conservative medical therapy may yield remarkable results, even in the presence of advanced arterial disease. The necessity for careful instructions in the hygiene of the feet and legs, especially in regard to such factors as the care of calluses, the avoidance of strong topical applications and of frostbite, is also essential.

THROMBOPHLEBITIS AND PHLEBOTHROMBOSIS

During the last few years a decided shift in the tendency to treat thrombophlebitis by conservative medical means, rather than by surgery, has occurred. The primary weapons in the treatment of thrombophlebitis today are anticoagulant drugs. When signs of thrombosis inflammation are present, anticoagulant therapy should be instituted immediately. This is best done by the use of heparin which should be given by parenteral administration (preferably intravenously). As an initial dose, 150 mg. is usually adequate for a person of moderate build. In general, the coagulation time should be kept at approximately three times its normal (or basal) level. Clotting times may be taken at four hour intervals and the injection of heparin should be repeated in doses of 50 mg. at four hour intervals. Heparin therapy should be continued for a period long enough to allow Dicumarol to overcome the tendency of the blood to clot by depressing the prothrombin level. Before the administration of heparin a specimen of blood for the determination of prothrombin level should be drawn and Dicumarol administered orally in a dose of 300 mg. When the prothrombin level has been depressed to a level below 30 per cent, heparin may be discontinued and a daily dosage of Dicumarol should be given, varying with the need according to the prothrombin determination.

If, as occasionally happens, the limb shows evidence of marked vasospasm, paravertebral sympathetic block may be used at the outset, prior to the administration of anticoagulant therapy. If the degree of vasospasm, as manifested by pallor and coolness of the limb, is not so pronounced, the vasospasm may be alleviated by the use of benzazoline in a dosage of 25 to 75 mg. four times daily. If a pronounced inflammatory reaction is present, anticoagulant therapy in the form of penicillin should be administered. The limbs should be kept at heart level or slightly above. As soon as pain and swelling are alleviated, the patient may be permitted short periods of ambulation. It is preferable to have the patient fitted with a long elastic stocking or to use elastic bandage prior to allowing him to walk so that swelling will be prevented. An example of the benefit to be obtained by such conservative medical therapy is given by the case listed below:

A 63 year old white man developed pain and tenderness in the left calf and medial aspect of the left thigh. On examination an area of redness and warmth was noted in the internal aspect of the left thigh and a tenderness was present deep in the left calf. A moderate amount of edema of the left leg was noted. A firm, cordlike thickening was palpable in the left saphenous vein, extending from the knee to the inguinal ligament. The temperature was 102 F. and the white blood cell count 18,600. An initial dose of heparin of 150 mg. was given intravenously and 300 mg. of Dicumarol was given orally. Heparin therapy 50 mg. every four hours was continued for forty-eight hours, until the administration of Dicumarol depressed the prothrombin level to 20 per cent of normal. Daily doses of Dicumarol were then given for eleven days.

Penicillin (400,000 units—crystalline and soluble type) was administered every twelve hours. Benzazoline was given in doses of 25 mg. four times daily. The area of inflammation and tenderness subsided in five days. An elastic bandage was applied and the patient was permitted to walk short distances the sixth day. His subsequent recovery and return to his occupation was rapid. Anticoagulant therapy was discontinued on the tenth day. He has continued to wear an elastic stocking and has had no recurrences of thrombophlebitis.

Heparin and Dicumarol have been shown to decrease the mortality and morbidity caused by venous thrombosis and its sequelae. Thus, Jorpes,[8] in summarizing the combined clinical experience of Bauer

and Zeliacus with venous thrombosis and pulmonary infarction, has shown a decrease in the mortality rate from 16 per cent in a series of 543 cases treated without anticoagulants to 0.67 per cent in a series of 900 patients treated with heparin and Dicumarol. In the same series of cases the average stay in bed was reduced from 40 to 4.6 days. Allen and others have reported similar beneficial results in the treatment of venous thrombosis. Allen[1] also has shown that pulmonary embolism occurs infrequently with Dicumarol, only 2 nonfatal instances occurring in a series of 138 patients with thrombophlebitis thus treated.

In view of the infrequency with which pulmonary embolism occurs with the use of anticoagulants, it seems wise to reserve venous ligation of thrombosed veins for those relatively uncommon instances in which pulmonary embolism has already occurred. The occurrence of sepsis with a swinging temperature curve due to an area of infected venous thrombosis, is also a clearly defined indication for venous ligation. With the early use of anticoagulant and antibiotic therapy, however, the need for surgical intervention in venous thrombosis is greatly diminished.

COMMENT

The efficacy of conservative medical treatment in peripheral vascular disease is directly related to the frequency with which an early diagnosis is made in these disease states. In both occlusive vascular disease and in venous thrombosis, early recognition and rapid institution of medical therapy will usually yield good therapeutic results. If the patient fails to report before ulceration or gangrene has appeared, or before pulmonary embolism has occurred, treatment will give much poorer results. An alertness for the early signs of peripheral vascular disease is therefore indispensable if serious complications are to be avoided. The necessity for surgical intervention is often an admission of failure of early diagnosis.

SUMMARY

The advent of anticoagulant therapy, the development of effective sympathicolytic drugs, and the use of antibiotic drugs have provided effective medical methods of treating peripheral vascular disease. Raynaud's disease, Buerger's disease, sclerosis of the peripheral arteries and thrombophlebitis can usually be treated by conservative medical means, provided the diagnosis is made early. Surgical therapy generally should be reserved for advanced stages of peripheral vascular disease and for serious complications.

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ABSTRACT OF DISCUSSION

DR. O. B. GOBER, Temple: In the conservative treatment of peripheral vascular disease I would like to reemphasize the necessity of early diagnosis and treatment for the most beneficial results.

One further factor I would like to stress is the judicious use of whiskey. While I am sure that it is of some help in making the patient feel better by increasing his sense of well-being, chronic alcoholism may develop. This condition may be as stubborn to treat as the original disease for which it was given. It is not to the physician's credit to have the patient develop chronic alcoholism; for this reason I believe that whiskey should be advised cautiously and that the amount taken should be controlled.

INDUSTRIAL HEALTH FELLOWSHIPS

The Institute of Industrial Health of the University of Cincinnati is accepting applications for a limited number of fellowships to qualified candidates desiring to follow a graduate course in preparation for the practice of industrial medicine.

Any registered physician who is a graduate of a class A medical school and has completed two years of hospital training may apply. The course consists of a two year training period and one year of practical experience under adequate supervision in industry. Further information may be obtained by writing to the Institute of Industrial Health, College of Medicine, Eden and Bethesda, Cincinnati 19, Ohio.

Sheppard Air Force Base Cited

Top officers directing the Armed Services Blood Donation activities have cited Sheppard Air Force Base, Wichita Falls, for its model operation of a blood donor center. The pattern adopted there will be used as a guide in setting up other centers.

The general practitioner or family physician, because of his close association with the family, must occupy an important place not only in the prevention of tuberculosis but also in the treatment during what are ordinarily termed the pre- and post-sanitarium periods.—Edward W. Hayes, M. D., Calif. Med., December, 1950.

ALPHA-TOCOPHEROL AND CALCIUM GLUCONATE IN THE PREVENTION OF THROMBO-EMBOLISM

Preliminary Report

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THIS report is a study of one method for the prevention of thrombo-embolic complications in postoperative patients.

Although effective measures are available for the treatment of established thrombo-embolic disease, anticoagulants, vein ligation, or a combination of the two methods leave much to be desired. It is logical, then, that efforts be directed toward safe and effective prophylaxis.

It is generally conceded that the administration of anticoagulants for routine prophylaxis of thrombo-embolic disease in postoperative patients is too hazardous for general use. The incidence of death from hemorrhage in treated cases is approximately equal to the incidence of death from pulmonary emboli in untreated cases, not to mention an incidence of nonfatal hemorrhagic complications in 16 per cent of cases.[5] It is possible that safer anticoagulant drugs, such as phenylindandione (PID) now being used by various workers as reported by Jaques[4] or Tromexan as reported by Lange,[10] will prove effective with less morbidity and mortality.

After an initial wave of enthusiasm early ambulation has assumed its rightful place as an adjunct in the prevention of thrombo-embolic disease, but it is by no means universally applicable or uniformly effective.

Prophylactic ligation of the femoral vein has lowered the mortality rate from pulmonary embolism in a series of patients older than 65 years of age at the Massachusetts General Hospital from 26 in 458 cases to 1 in 458 cases.[1] Although the expected higher incidence of thrombo-embolic disease and the lesser importance of limb morbidity incident to the procedure in the aged might warrant this program, the individual surgeon probably would consider as radical the routine prophylactic ligation of superficial femoral veins in younger patients undergoing hernia repairs. However, we by no means subscribe to the theory that to resort to surgery is necessarily more radical than to use dangerous drugs.

Since anticoagulants are not safe for routine prevention, the need for a simple test to identify the patient with potential thrombo-embolism is apparent. Serial prothrombin determinations have helped Sandrock and Mahoney[9] of Rochester, N. Y., discover patients needing prophylactic anticoagulant therapy. McClure and his associates[6] have been unable to confirm the value of prothrombin determinations or of coagulation graphs showing fibrinogen B as reported by Cummine and Lyons.[2]

Because of the limitations of the aforementioned methods of prevention of thrombo-embolic disease, it is easy to understand why the method advocated by Ochsner, Kay, and others[7] was awaited so eagerly. These investigators used alpha-tocopherol in conjunction with calcium therapy to effect a high antithrombin titer postoperatively. The method is safe and relatively simple, and demands a minimum of laboratory work. It was devised from the premise that normally intravascular thrombosis is prevented by the action of antithrombin on thrombin, the latter of which is necessary for the conversion of fibrinogen to fibrin (fig. 1).

According to Riggs,[8] intravascular clotting begins with the adhesion of platelets to the intima of a blood vessel, commonly at a site of endothelial damage. This

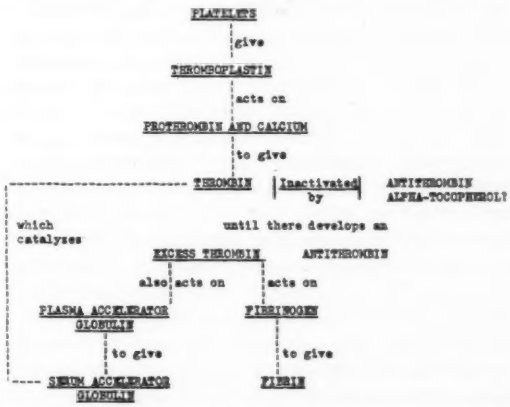

FIG. 1. Diagram illustrating the hypothesis upon which alpha-tocopherol therapy for thrombo-embolism is based.

adhesion serves as a starting point for the true fibrin clot which follows. As the platelets clump together, some disintegrate and liberate thromboplastin. In the presence of ionized calcium, thromboplastin converts inactive prothrombin to the active enzyme thrombin. At first the small amounts of thrombin probably are inactivated by the circulating antithrombin in the plasma, but since the production of thromboplastin

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increases as the platelets disintegrate, more thrombin is activated, which in turn converts fibrinogen into fibrin. Simultaneously, thrombin transforms another protein, plasma accelerator globulin, into serum accelerator globulin, which in turn greatly increases the rate of thrombin liberation. In the presence of accelerator globulin, therefore, the conversion of prothrombin to thrombin is autocatalytic. Once initiated, it rapidly gathers momentum and the corresponding formation of fibrin from fibrinogen is accelerated.

The circulating antithrombin is believed by Ochsner and Kay to be alpha-tocopherol. In a study of 301 surgical patients, these authors noted that if a relatively high titer of antithrombin was maintained, that is, a dilution of 1 to 32 or higher using the plasma antithrombin test of Kay, the incidence of thrombosis could be diminished significantly. By in vitro experiments they observed that when alpha-tocopherol is added to plasma, it becomes bound by fibrinogen and other proteins and ceases to act as an antithrombin. By adding calcium this binding was corrected and an active antithrombin was formed, hence the need for administration of calcium gluconate in conjunction with alpha-tocopherol.

METHOD OF STUDY

To determine the efficacy of the alpha-tocopherol and calcium method of prevention of thrombo-embolic disease, it was decided to study the incidence of the disease in the Wichita Falls Clinic-Hospital in two groups of general surgical and gynecologic patients who had the following types of operation: hernia repair, cholecystectomy, hysterectomy, appendectomy, cesarean section, intestinal resection, gastric resection, colon resection, ectopic pregnancy, vaginal repair, radical mastectomy, and miscellaneous laparotomies. Group 1 was composed of 410 patients operated upon from July 1, 1949, to June 30, 1950, who had no specific prophylactic treatment. Group 2, 261 patients undergoing surgery from July 1, 1950, to March 1, 1951, was treated with alpha-tocopherol and calcium gluconate according to the method of Ochsner, Kay, and their colleagues. This method is as follows: Beginning the day of surgery, each patient was given alpha-tocopherol in the form of Epsilan Phosphate (Warren-Teed) 100 international units every eight hours intramuscularly until he was able to take Epsilan Acetate (Warren-Teed), 100 to 200 international units by mouth. In addition, 10 cc. of calcium gluconate was given intravenously daily for the duration of hospitalization, and daily antithrombin levels were taken.

Patients for the entire period of study were seen daily by one of us (E.F.H.). The legs were examined and any complaint of pain was evaluated to the best of our ability by clinical methods only. To be as objective as possible, no case was considered one of thrombo-embolism unless two or more of the staff concurred in the diagnosis. The limitations of such a procedure are discussed more thoroughly below.

RESULTS

The incidence of thrombo-embolic disease in group 1 (untreated, 410 patients) was 6.34 per cent and in group 2 (treated, 261 patients) 2.29 per cent. The incidence of deaths from thrombo-embolic disease was 0.48 per cent in group 1 and 0 in group 2. The incidence of fatal pulmonary embolism was 0.24 per cent in group 1 and 0 in group 2.

In group 1 (410 patients) there were 26 cases of thrombo-embolic complications; in group 2 (261 patients) there were 6 cases of thrombo-embolic complications (table 1). Analysis of 2 of the 6 cases of thrombophlebitis in group 2 revealed that in one instance the alpha-tocopherol had been stopped on the third postoperative day and that five days later the complication developed. In the other instance, a postoperative cesarean section, the patient developed thrombophlebitis four days after being discharged from the hospital and four days after cessation of alpha-tocopherol therapy. This patient had been carefully examined prior to discharge and no evidence of thrombophlebitis had been seen. If these 2 patients can be considered as having had inadequate treatment, the corrected incidence of thrombo-embolic disease in group 2 is 1.53 per cent.

TABLE 1.—*Thrombo-Embolic Complications in 671 Patients.*

Complication	Group 1 Untreated (410 Patients)	Group 2 Treated (261 Patients)
Thrombophlebitis and phlebothrombosis	22	6
Nonfatal pulmonary emboli	7	0
Fatal pulmonary embolus	1*	0
Miscellaneous thrombotic deaths	1†	0
	31‡	6

*Confirmed by autopsy.
†Thrombosis of superior mesenteric artery confirmed at autopsy.
‡Of the 26 patients with thrombo-embolic complications, several had more than one.

DISCUSSION

It is generally recognized that the most important limitation of accuracy in a study of this sort is in the diagnosis of thrombo-embolic disease. Criteria for the diagnosis of thrombophlebitis, phlebothrombosis, and nonfatal pulmonary infarcts vary according to the experience of individual surgeons.[3] The surgeon who requires that redness, tenderness, localized heat or coldness, and swelling of the leg be present along with fever and leukocytosis before he considers the diagnosis of intravascular thrombosis will have a much lower incidence of recognized thrombophlebitis and phlebothrombosis than one with a lowered threshold of suspicion who carefully examined his patients postoperatively and considers as intravascular throm-

bosis any physical signs such as tenderness to compression of the calf; tenderness to palpation of the plantar veins, the calf veins, the saphenous or femoral veins, or veins of the adductor muscle groups; and any minimal swelling, and/or dilatation of the superficial veins of the foot. Further observation will usually establish or deny the diagnosis. Many patients have transient leg complaints with no physical signs. For statistical purposes these patients were not included in this study as cases of thrombophlebitis or phlebothrombosis. However, those patients with persistent complaints of leg ache associated with any physical sign were considered as cases of phlebothrombosis.

The same considerations applied to pulmonary emboli. Any respiratory distress occurring postoperatively was evaluated immediately by the staff. If associated with pleural pain, shock, phlebitis, or roentgenographic evidence of pulmonary infarction or any combination of these factors, it was considered that a pulmonary embolus had formed. Roentgenography, of course, is unreliable in the diagnosis of pulmonary emboli since many small emboli may not produce a demonstrable infarct. The sign taught all medical students as indicative of pulmonary infarction, that is, hemoptysis, occurred only three times in this series of cases.

The reported incidence of postoperative thrombo-embolic disease varies from 1 to 12 per cent in untreated cases. Allen[1] reported an incidence of 12 per cent thrombophlebitis in patients more than 65 years of age. This undoubtedly was because of the age group and extent of surgery. Felder[3] reported on the incidence of thrombophlebitis after various types of surgery in the University of Minnesota Hospitals (table 2). The figures in table 2 are, of course, only for phlebitis. If cases of nonfatal pulmonary infarcts, fatal embolism, and miscellaneous thrombotic deaths also were included, the figures would be even higher. Our incidence was 6.4 per cent in untreated cases; since many cases were mild and nearly overlooked, we are of the opinion that the relatively high figure was due to the close surveillance of patients postoperatively with more frequent recognition of the complication. That thrombophlebitis frequently goes unrecognized and undiagnosed by the attending physician or surgeon is borne out by autopsy studies of Zimmerman and his associates.[11] In a series of 56 fatal pulmonary emboli, antecedent phlebothrombosis or thrombophlebitis was unrecognized in 49 cases, despite the presence of edema noted by the pathologist at autopsy in 21 cases and the recording of the complaint of leg pain in the nurses' notes and progress notes of an additional 12 patients.

TABLE 2.—*Incidence of Thrombophlebitis After Surgery in the University of Minnesota Hospitals.*

Operation	Incidence (%)
Hysterectomy	5.0
Cholecystectomy	1.6
Vaginal repair	5.8
Hernia repair	1.7

It should be emphasized that in our series the same surveillance and the same criteria were applied by the same persons to group 2, thus assuring a series of operative cases comparable to each other.

Our experience with Ochsner and Kay's method of prophylaxis of thrombo-embolic complications was attended by few side reactions. There were no idiosyncracies to the alpha-tocopherol. The major complaint of patients on this program was relative to the administration of calcium gluconate intravenously, and the vast majority of reactions were not repeated after reassuring the patient and using a slower, more deliberate administration of the drug. We have noted that Neo-Calglucon (Sandoz) is tolerated best.

To manage better the hazard of the occurrence of cardiac dysrhythmias in digitalized patients, the drug was given to these patients by a member of the house staff. All other patients were given the drug by a member of the nursing staff familiar with the administration of calcium intravenously.

No hemorrhagic manifestations were believed to result from the drug. One patient who incurred bilateral traumatic amputations of both arms at the upper one-third of the humerus experienced rectal bleeding, but this was found to be due to a rectal fissure. At the time of bleeding he had had alpha-tocopherol for twenty-one days. No bleeding occurred from the granulating amputation stumps during therapy which lasted thirty-three days.

CONCLUSIONS

Our experience with the method of Ochsner, Kay, and their co-workers for the prevention of thrombo-embolic disease with alpha-tocopherol and calcium gluconate therapy leads us to the conclusion that the method is effective in lowering the incidence of thrombo-embolic complications postoperatively. By determining the standard error of the difference between the incidence rates of thrombo-embolic complications in our two groups of patients, it was observed that the incidence was significantly lowered by using alpha-tocopherol and calcium therapy prophylactically. No hemorrhagic manifestations and only minimal side reactions were evidenced. In addition, those cases of thrombophlebitis occurring under treatment were mild and had no sequelae. No pulmonary emboli, fatal or nonfatal, have occurred in patients under treatment thus far.

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Dr. Crump, 1300 Eighth Street.
Dr. Heiskell, 3405 Barrett Place.

ABSTRACT OF DISCUSSION

DR. TERRELL SPEED, Temple: Drs. Crump and Heiskell have presented therapy in its most effective form, namely prophylaxis. The difficulty of the early recognition of impending thrombo-embolic disease is realized. It has been clearly shown that even with the closest inspection, 40 per cent of so-called phlebothrombosis is unrecognized before the first embolism occurs. This emphasizes the importance of protective measures. Unquestionably, alpha-tocopherol–calcium therapy offers great promise of fulfilling such a need. Even though less than eighteen months have elapsed since the first report was made, considerable evidence is accumulating to substantiate the value of this therapy. The series of cases presented by Drs. Crump and Heiskell is adequate to be statistically significant and has been carefully analyzed.

My use of this therapy at first was confined to those cases in which thrombosis could be expected either because of history of previous thrombosis or on the basis of the type of surgical procedure. However, I have gradually expanded its use and now it is used routinely in essentially the same group of cases mentioned by the authors. In the first 100 cases, no thrombosis was recognized and certainly no embolism occurred. If the promising preliminary results are borne out, relative protection against one of the most feared complications of surgery will have been obtained.

I would like to emphasize that alpha-tocopherol–calcium therapy has the following advantages over the previously used prophylactic measures:

1. There are minimal side reactions.
2. It is safer since there is no hemorrhagic tendency.
3. It is less expensive.
4. It is far less radical than prophylactic vein ligation.

Alpha-tocopherol and calcium should be used for a minimum of from five to seven days or even longer if the patient remains in hospital. Those valuable adjuncts deep breathing, leg exercises, and early ambulation should not be forgotten.

PROLONGED ANTICOAGULANT THERAPY FOR AMBULATORY PATIENTS

B. B. ELSTER, M.D., and H. B. EISENSTADT, M.D.,
Port Arthur, Texas

IT has been amply demonstrated clinically that prolonging the coagulability or the clotting tendency of blood will prevent or retard thrombo-embolic manifestations. This was first shown in 1939 by Solandt, Nassim, and Best,[11] who were able to prevent the formation of coronary and intracardiac mural thrombi in experimental animals by using heparin. The application of this drug was followed soon by its successful clinical use. Shortly afterward, the availability of Dicumarol made it the drug of choice in the treatment of thrombo-embolic diseases, particularly if the hypocoagulable state had to be extended beyond a few days.

In the beginning Dicumarol was restricted to the acute vascular diseases such as pulmonary embolus and coronary thrombosis.[12] Later, this drug was used as a postoperative and as a postpartum prophylactic measure. More recently Dicumarol has been used in treating a variety of diseases in which the danger of thrombosis and embolism may exist for long periods: months or perhaps years. By keeping the blood in a hypocoagulable state until such danger is past, a severe or fatal vascular accident may be averted.

The effect of Dicumarol in producing a hypocoagulable condition of the blood depends upon its depression of the prothrombin mechanism. The action is affected greatly by the presence or absence of vitamin K.[7] Other possible effects, as yet not completely understood, are the decrease of the adhesiveness of the platelets and the changes in fibrinogen caused by Dicumarol.[7, 8] Another pharmacologic action, besides that affecting the coagulability, has been claimed by N. C. Gilbert and others[5] to be the drug's vasodilating effect, which may explain the lessening of angina when Dicumarol is used in patients with coronary insufficiency.

The summation of these known and unknown physiologic actions can be measured reliably for prac-

From the Medical Clinic.
Read before the Section on Internal Medicine, Texas Medical Association, Annual Session, Galveston, May 1, 1951.

tical clinical purposes by the one stage Link-Shapiro modification of the Quick prothrombin method with undiluted plasma. The test using rabbit brain thromboplastin (Simplastin-Chilcott) is performed in our laboratory in preference to the viper venom formerly used. For greater accuracy the plasma from the oxalated blood is removed immediately by centrifugation and stored in the refrigerator until the test can be completed. An expensive direct vision water bath can be eliminated by the use of an ordinary glass beaker. The latter containing water is placed in a bacteriologic incubator to be warmed to a temperature of 37 C. Later three test tubes of Simplastin solution are placed into the warmed water bath inside the incubator for three minutes. Upon removal from the incubator, the plasma is added to each tube of Simplastin solution and the test completed while the tubes are still in the water bath. The actual prothrombin time is the average of the three readings. In order that the entire performance may be done by one person and more accurate timing insured, a stop watch operated by a foot pedal is used (fig. 1).

CONTROL

The chief effort of control has been to maintain the plasma prothrombin at a safe and yet therapeutic level at which intravascular clotting will not occur and bleeding will not be induced. The ideal therapeutic level has been controversial. Wright[14] stated that prothrombin levels of from 30 to 50 per cent, by the one stage method, is adequate. Allen[1] recommended a range of between 10 and 30 per cent with the similar technical methods of determination. He claimed that intravascular clotting seldom will occur when the prothrombin level is less than 30 per cent and that bleeding is rare when the level is more than 10 per cent of the patient's pretreatment value. However, Peters[9] and his associates considered a level of from 35 to 50 per cent of normal adequate. We consider a safe and therapeutic level to be between 20 and 40 per cent of the patient's normal pretreatment level, and have noted a dose varying from 150 to 700 mg. of Dicumarol weekly to be required. From 50 mg. three times a week to 100 mg. daily will be necessary to maintain such a level, after the initial period of treatment and stabilization. The dosage has not been observed to be influenced greatly by age, sex, constitutional state, or menstruation. It has been claimed that certain drugs such as salicylates, alcohol, and the sulfonamides will elevate the prothrombin time and that protein deficiency and lactation will produce the same effect. These difficulties have not been encountered in our experience.

Treatment is never initiated until a normal prothrombin determination for the individual patient has been made. Before the treatment is started in hospitalized patients, an attempt is made to anticipate the prolonged use of Dicumarol and to have a second determination made by the office technician. In this way the two laboratories are checking each other while the office laboratory establishes its own normal value to be used later for treatment when the patient is ambulatory. However, the deviations using the same method and technique have been small. The frequency of the determinations is lessened gradually as the patient's prothrombin time is stabilized and eventually it is necessary to perform these tests only every seven to fourteen days. A record of the determinations is plotted on a chart which shows the dosage per day as well as the percentage of the normal and the actual prothrombin time. This chart enables the prediction of future dosages at a glance. We personally inform the patient of his dosage and instruct him to write down the exact daily amounts prescribed, hence lessening the chances of error.

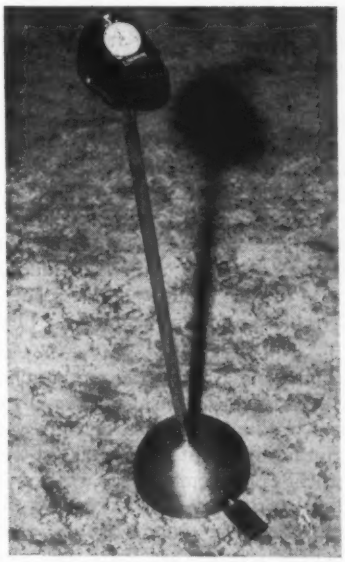

FIG. 1. Photograph of a stop watch mounted on a pedestal and operated by a foot pedal to secure more accurate determination of prothrombin time.

The use of Dicumarol makes mandatory certain essential precautions:

1. The patient or the attending personnel must be sufficiently intelligent and cooperative to administer the designated dose and to recognize early signs of toxicity.

2. The attending physician must understand fully the indications, dosage, early symptoms, and treatment of toxic reactions.

3. A reliable laboratory with a capable technician must make the prothrombin determinations. The phys-

ician must have complete confidence in the results of the test.

4. The contraindications for Dicumarol must be known and recognized. However, in various diseases the contraindications may be relative to the dangers expected from thrombo-embolism. Dicumarol should not be used in various blood dyscrasias, liver dysfunction, peptic ulcer, ulcerative colitis, or pre-uremic conditions.

With these precautions toxic reactions of Dicumarol have been almost completely absent in our patients. Occasionally gastrointestinal discomfort was present but was not sufficiently severe to interrupt the treatment. The main symptoms of toxicity resulted from an excessive depression in the prothrombin level causing hemorrhage. Constant observation and inquiry into the cause of skin bruises, epistaxis, hematuria, hemoptysis, or bleeding from the gums are imperative as they are the most frequent signs of overdosage.

Occasionally in our patients the prothrombin level fell below 10 per cent of normal without any clinical manifestations of bleeding; this change was most likely to occur during the first few weeks of treatment while the patient's prothrombin level was not yet fully stabilized. These patients were observed carefully without the administration of vitamin K or blood transfusions, and within several days Dicumarol treatment could be resumed. For patients presenting bleeding vitamin K (Hykinone 72 mg.) was administered intravenously every six to twelve hours for several doses, and before the prothrombin values reached pretreatment levels, Dicumarol was resumed in reduced dosage. It was never necessary to administer whole blood to control bleeding, but such measures at times may be necessary and should be kept in mind.

In consideration of the different clinical states in which prolonged Dicumarol treatment is indicated, a physician must remember that in a great number of cardiac diseases, there is a strong tendency for the formation of thrombi and emboli. These may arise especially in the presence of congestive failure and auricular fibrillation. Intracardiac thrombi originate most commonly in the left side and release emboli which lodge in the smaller arteries of the extremities, viscera, and brain. Mural thrombi in the right side of the heart, especially in the auricular appendage in the presence of mitral stenosis, will become detached and lodge in the lungs. Other sites of clot formation in patients with cardiac disease are the veins of the lower extremities.

A different group of patients with cardiac disease requiring anticoagulant therapy using Dicumarol are those with coronary artery disease. After acute coronary thrombosis, the prolongation of anticoagulant therapy beyond the acute stage might be considered, as the incidence and probability of recurrence is high. Similar considerations should be given those patients with coronary insufficiency and with essential or symptomatic hypercholesteremia. The lessening of anginal attacks might be of some importance.

For the initial and for the repeated cerebral, retinal, and carotid[3] thrombosis, it may be necessary to decrease the clotting power of the blood for an indefinite period. Likewise, thrombophlebitis or phlebothrombosis, especially in recurrent and migratory forms, may be prevented by the same method. During and after one of the latter episodes, this treatment may lessen the residual edema, cyanosis, and discomfort so common as an aftermath. The use of Dicumarol in multiple sclerosis,[10] granulocytic leukemia,[6] and Chiari's[2] disease has been mentioned but not yet properly evaluated.

Once having initiated Dicumarol therapy, the physician must decide how long to maintain it, which is a matter of clinical judgment. Certainly the drug should be used as long as thrombotic and embolic tendencies are thought to exist. Foley and Wright[4] considered that patients with cardiovascular diseases showing repeated episodes of thrombo-embolism should be maintained on anticoagulant therapy for years or even a lifetime.

The impression gained by our following the above program in the last three years has been favorable, even though the number of patients treated is too small for statistical purposes. The one failure of the group will be mentioned later. In spite of this, a series of approximately 35 patients, treated mainly for cardiovascular ailments, has been observed for periods of from several months to three years; from this study we feel that many vascular accidents have been averted. The treatment is advantageous in that it may be carried out on an ambulatory basis even after the patient resumes working, it is inexpensive, and it permits closer personal contact between patient and physician, thus giving more careful control of his disease.

CASE REPORTS

CASE 1.—Mrs. F. K., a 60 year old woman, was first seen in December, 1946, because of periodic spells of auricular flutter on the basis of chronic rheumatic heart disease with mitral stenosis and insufficiency. Shortly afterward the rhythm changed to auricular fibrillation, which has persisted to this date. During 1947 and 1948 the patient had three attacks of cerebral embolism associated with a right hemiplegia and aphasia.

After the last vascular episode anticoagulant therapy was begun. A satisfactory prothrombin level of from 30 to 35 per cent has been maintained by 50 mg. of Dicumarol four times weekly with laboratory controls necessary only every second week. The patient is ambulatory and able to perform light household duties. No further cerebral emboli have occurred since the beginning of treatment almost three years ago.

CASE 2.—Mr. N. O., a 63 year old white man, sustained his first coronary thrombosis of the posterior wall type in January, 1948. Convalescence was uneventful. A second and

similar infarction occurred in September, 1948. After this attack he began to experience anginal seizures which became progressively worse. By June, 1950, his exercise tolerance was so severely reduced that ordinary light activities about his home caused substernal distress. It was not unusual for him to use from ten to twelve nitroglycerine tablets daily. There were no regressive changes in the serial electrocardiograms which showed evidence of an old residual posterior wall infarct.

Mainly because of his increased anginal discomfort and because of the possibility of another infarction, the patient was started on anticoagulant therapy. Improvement was slow, and after several months the patient resumed his former occupation which required a great deal of walking. Angina is still present but only after more than moderate exertion. Adequate prothrombin levels of approximately 30 per cent have been maintained to the present. Laboratory determinations are performed every two weeks.

CASE 3.—Mr. W. R., the only case in which treatment was classified as a failure, was a 60 year old white man. During and after his initial attack of coronary thrombosis in 1949, he was kept on Dicumarol. An effective prothrombin level was maintained for the following six months, and on the day preceding the second and fatal coronary occlusion, the prothrombin time was 25 per cent of his normal pretreatment level.

It will take considerable time before the clinical usefulness of prolonged Dicumarol treatment can be appraised fully because of the divergences and variabilities shown by the diseases for which it is indicated. However, regardless of the final value of Dicumarol therapy, it can be stated that the administration of this drug during a long or even an indefinite period can be regulated safely by careful clinical examinations and simple laboratory procedures available to the general practitioner. This observation is in contrast to some of the early and even more recent reports about Dicumarol toxicity which mention serious and even fatal hemorrhages. The bad reputation has delayed greatly the appreciation and use of this valuable drug as outlined in the preceding paragraphs.

CONCLUSIONS

An attempt has been made to outline the clinical applications of prolonged anticoagulant therapy with Dicumarol. By reducing the blood coagulability, the dangers of thrombo-embolism can be lessened greatly. Because of possible complicating hemorrhages, a simplified method of controlling the hypocoagulability has been emphasized and described.

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ABSTRACT OF DISCUSSION

DR. EDGAR M. MCPEAK, Houston: In 1947 when I began the routine use of anticoagulant therapy in cases manifesting thrombo-embolic phenomena, the question as to how long an attempt at control should be maintained arose. The death of 3 patients with recurrent myocardial infarctions in the third month, shortly after the discontinuance of this therapy, naturally led to the conjecture that the second infarctive episode might have been delayed by the therapy and that if so, a subsequent attack might have been further or indefinitely delayed. I then began to prolong this presumably protective influence in these cases to the point at which it appeared complete cardiovascular rehabilitation had been accomplished. In certain cases this meant the prolonging of anticoagulant control indefinitely. More recently I have felt justified in instituting therapy in those patients considered to be extremely vulnerable to thrombo-embolic disturbance.

Dr. Charles A. Armbrust, Dr. Gordon W. Howe, and I have observed approximately 100 patients with thrombo-embolic disease of various types who have been maintained on ambulatory anticoagulant therapy for periods ranging from three months to more than three years. This group consisted of cases of myocardial infarction with recurrence or with extensive loss of cardiac reserve and persistent failure; recurrent or persistent thrombophlebitis and phlebothrombosis with or without pulmonary embolism; repeated episodes of cerebral thrombosis; Buerger's disease; endarteritis obliterans; chronic congestive heart failure and cardiac arrhythmias with embolic phenomena; coronary artery insufficiency, and/or uncontrollable angina pectoris. In the majority of these cases Dicumarol has been used, but during the past year considerable experience with Tromexan and BL-5 (4-hydroxycoumarin anticoagulant no. 63, Abbott) has been gained.

The criteria necessary for safe and dependable long term anticoagulant control, as set forth by Drs. Elster and Eisenstadt, namely, adequate laboratory facilities, a cooperative patient, and alert medical supervision, should be emphasized. It is important to instruct the patient carefully on the nature and rationale of the therapy and to furnish him with detailed information and directions regarding administration of the drug. I have noted that the frequency with which the prothrombin level should be observed as a guide for projecting the dosage of the drug varies widely, both from patient to patient and from time to time in the same patient. Considering the patient to have been adequately screened before

therapy was started, the frequency at which the prothrombin level should be observed seemed to relate mainly to his sensitivity to the drug, factors in the intestinal tract altering its absorption or excretion, and disturbance in liver function, particularly with regard to congestive heart failure. In the majority of cases the dosage can be directed dependably by observing the prothrombin levels at intervals of two weeks. We have found it more practical to estimate the dosage required for the interval period rather than by the day.

Hemorrhages, especially from the kidneys, from overdosage with the anticoagulant agents have been noted in a few instances. These hemorrhages were severe in 5 cases, but withdrawal of the drug and the administration of vitamin K proved adequate for restoration of the desired control and no fatalities have occurred. Thrombo-embolic episodes sometimes recur in patients on anticoagulant therapy and cases have been reported in which the control was considered adequate. We have not observed recurrent episodes in any situation in which adequate control was convincingly demonstrated. Two patients who died suddenly while presumably under adequate control failed to manifest any evidence of a fresh thrombosis at autopsy. The most frequent symptom of drug toxicity we have observed is abdominal and/or lumbar distress which may precede macroscopic hematuria by several hours. Hemorrhage does not appear to be directly related to the prothrombin level and by inference probably relates more nearly to the condition of the capillaries. Our experience with Tromexan and BL-5 indicates that either is preferable to Dicumarol as an anticoagulant agent in that they appear to have less toxic effect on the capillaries and produce a more consistent and steady effect on the prothrombin level.

That a favorable total vascular response occurs in most patients who are maintained on anticoagulant medication has been observed by practically every physician who has had experience with this form of therapy. No convincing explanation for this common impression has been advanced. Years will be required to evaluate the influence prolonged anticoagulant control has on the well-being and life expectancy of this vascularly vulnerable group of people. For the individual physician, it is advisable to avoid over-enthusiasm in estimating the virtue of any new method of therapy.

CLINICAL PATHOLOGY OF MULTIPLE MYELOMA

W. N. POWELL, M.D., Temple, Texas

ALTHOUGH the disease multiple myeloma was first described by Dalrymple more than a century ago, it was regarded as rare until comparatively recent years when greater knowledge of its various manifestations and improved laboratory methods have made its diagnosis relatively simple and have increased greatly the frequency with which it is recognized.

The present paper is based upon a series of 33 cases of multiple myeloma seen at the Scott and White Clinic between 1930 and 1950. It is of interest that from 1930 until 1940 only 3 cases were recorded whereas from 1940 until 1950 a total of 30 cases were recognized. Seven other cases listed in our files during this period were rejected as unproved or incompletely studied. Of the 33 cases selected, 30 were confirmed pathologically by marrow aspiration, biopsy, or necropsy. The remaining 3 cases were regarded as valid since they showed characteristic roentgenographic changes, myeloma cells were identified in the peripheral blood, and Bence-Jones protein was present in the urine.

AGE AND SEX

The youngest patient was 39 and the oldest 76 years of age, with an average age of 57 years. Men outnumbered women more than 3 to 1. These data on the age and sex incidence of the disease agree closely with those recorded in the literature.[5]

From the Department of Clinical Laboratories, Scott and White Clinic.

Read before the Section on Clinical Pathology, Texas Medical Association, Annual Session, May 1, 1951.

DURATION OF DISEASE

Multiple myeloma is uniformly fatal, but the survival time is widely variable. In the present series the duration of life from the onset of symptoms until death varied from two to fifty-four months with an average of eighteen months. Treatment with irradiation and stilbamidine apparently did not prolong life significantly. The use of ACTH and cortisone in several cases did not seem to alter the course of the disease. Whether urethane therapy will prolong life to any degree is as yet unsettled. Three patients in this series receiving urethane have survived fifteen, twenty-two, and fifty-five months respectively.[11]

CLINICAL MANIFESTATIONS

Pain, tumors, skeletal deformities, pathologic fractures, neurologic symptoms, weakness, and weight loss commonly occurred. Pain, the outstanding feature in most of the patients, generally was referred to the thorax or lumbar spine, generally was unremitting, and was aggravated by movement. A few patients had marked tenderness to palpation over the affected areas. Pathologic fractures were noted in 12. One patient had pronounced bleeding from the nose and gums. In general, the symptoms of multiple myeloma are suggestive but not diagnostic of the disease.

PATHOLOGIC ANATOMY

Multiple myeloma is a tumor arising in the bone marrow, especially in sites which normally contain red marrow, notably the vertebrae, skull, ribs, and ends of the long bones. The tumors are usually multiple,

soft, reddish nodules varying from pinpoint in size to masses measuring several centimeters in diameter. There is characteristically a local absorption of bone over the tumors and occasionally the cortex is broken through with spread into the surrounding tissues. Occasionally, the growth is diffuse rather than nodular in character. Myeloma cells may infiltrate the spleen, lymph nodes, liver, adrenal glands, ovaries, lungs, heart, and other organs.

Microscopically, by routine methods of fixation and staining of sectioned material, the tumor cells typically are found to show a basophilic cytoplasm and relatively small, dark, eccentric nuclei with a more or less radial or peripheral arrangement of the clumps of chromatin. Occasionally two or more nuclei are seen. Mitoses are not usually numerous.

ROENTGENOGRAPHIC CHANGES

In most cases of multiple myeloma suggestive, if not always characteristic, bone changes can be found in roentgenograms.[17] In this series bone changes were found by roentgen ray in 29 cases although in several it was only by repeated examinations after the diagnosis had been established that such changes were dis-

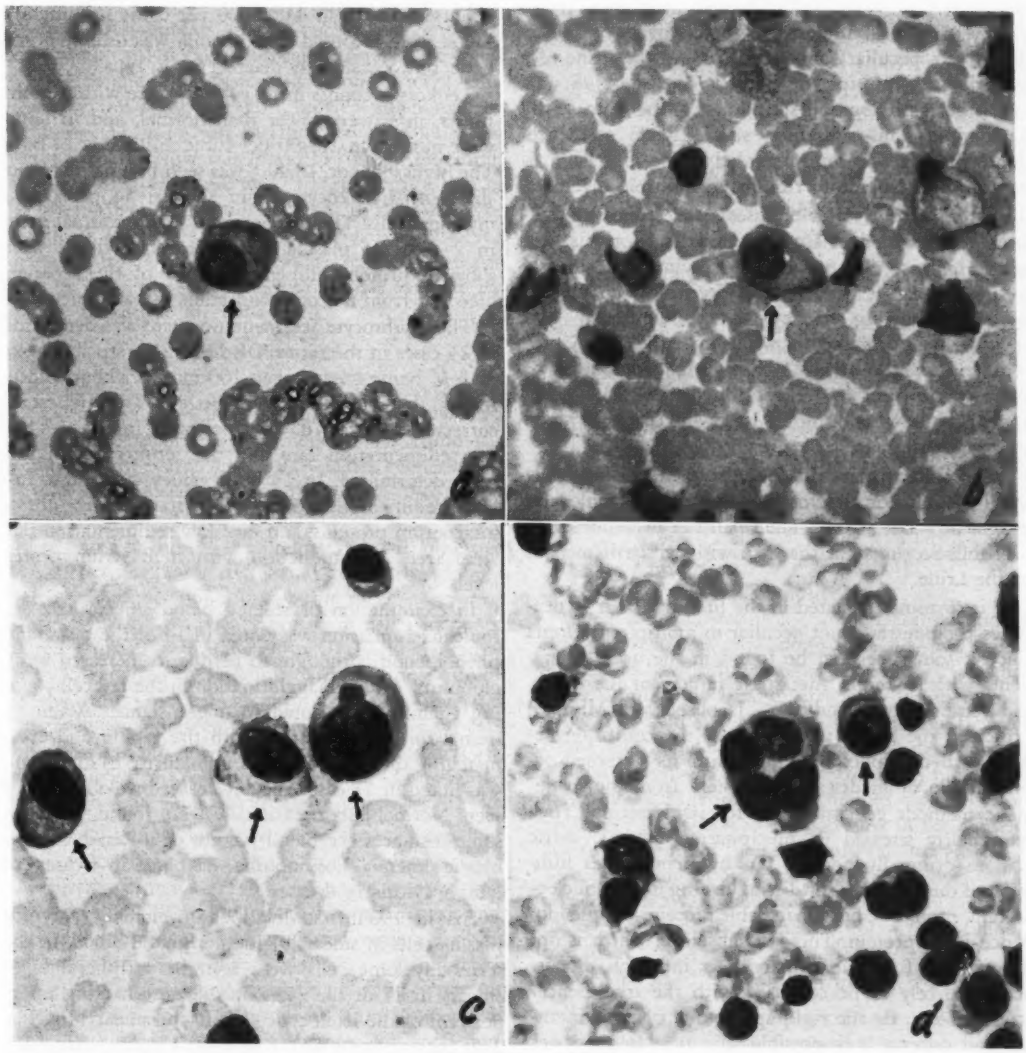

FIG. 1a. Photomicrograph showing a myeloma cell in a smear of peripheral blood. x 600

b. Normal plasma cell in normal bone marrow. Note the single clear vacuole in the cytoplasm. x 600

c. Myeloma cells in a marrow smear showing variation in size and the large size of some of the cells. x 600

d. Myeloma cells in a marrow smear. Note the multinucleated cell and the conspicuous nucleoli. x 600

covered. The typical alterations, especially in the skull, are the characteristic, punched-out areas with sharply defined margins and without evidence of osteoblastic reaction. In some instances only diffuse osteoporosis, especially in the spine, may be seen. Large, multilocular cystic areas simulating giant cell tumors of bone occasionally may be present.[17] Clinically unsuspected pathologic fractures may be revealed by roentgen-ray examination.

LABORATORY FINDINGS

Urine

It is of historic interest that the discovery by Bence-Jones of a peculiar "animal matter" in the urine of a patient with multiple myeloma preceded by about a year the pathologic description of the disease by Dalrymple. This substance, since known as Bence-Jones protein, was long regarded as the most significant clinical laboratory finding in multiple myeloma.

In the present series of cases Bence-Jones proteinuria was recorded in 15. Repeated tests for this substance increase the chances of observing it since early in the disease it occurs only intermittently. Of the 15 cases showing Bence-Jones proteinuria, 7 also showed hyperproteinemia while in 8 the serum protein level was normal. Albuminuria of grade 2 or more was present in 16 cases, in 4 of which Bence-Jones protein was not found. In several cases red blood cells and casts were also present.

Bence-Jones protein is thought to be an extremely small globulin or class of globulins with a molecular weight of about 30,000. The small size of its molecule probably accounts for the ease with which it escapes in the urine.

It is customarily stated in the literature that Bence-Jones proteinuria is not peculiar to multiple myeloma since it sometimes can be found in the urine of patients with leukemia, metastatic tumors of the bones, and certain other conditions. Jacobson and Milner[12] expressed the belief that much of the confusion regarding Bence-Jones proteinuria and its supposed occurrence in other diseases may stem from the inadequate methods generally used for its detection. They particularly stressed its precipitation by cold nitric acid as originally pointed out by Bence-Jones himself and the necessity for distinguishing it from nucleoprotein, proteoses, heat-coagulable protein, and pseudo-Bence-Jones protein. This last substance, which is not infrequently found in urinary tract infection, is particularly likely to be confused with the true Bence-Jones protein. By the rigid application of their methods and criteria it is possible that true Bence-Jones proteinuria will be found in no disease except multiple myeloma.

The source of Bence-Jones protein is still unsettled. Some have regarded it as a metabolic product of the myeloma cells. Others have disputed this on the basis of the large amounts which are sometimes seen. Devine has considered (1) that it arises from either the partial breakdown of a more complex protein or (2) that it results from a derangement of normal protein synthesis. According to Bayne-Jones and Wilson, it is immunologically distinct from any normal serum protein.

Peripheral Blood

Anemia was found commonly in this series, 26 of the patients having less than 11 Gm. of hemoglobin per 100 cc. of blood. In 29 of the patients erythrocyte counts of less than 4,000,000 per cubic millimeter of blood were recorded. The anemia was usually normocytic, but occasionally macrocytic, in type.

Leukocyte counts in 20 patients were within normal limits, in 9 were lower than normal, and in only 4 were more than 10,000 per cubic millimeter of blood. The highest count, 18,400, was seen in a patient whose differential leukocyte count showed 54 per cent of myeloma cells. The platelet counts were normal except in 2 cases of plasma-cell leukemia, both of which showed thrombocytopenia. In one of these patients bleeding from the nose and gums was conspicuous.

The erythrocyte sedimentation rate was determined in 24 cases in the series. Of these, 21 were above normal, 16 being greater than 100 mm. per hour (uncorrected) by the Westergren method. The highest uncorrected rate was 165 mm. per hour. In 21 cases both the sedimentation rate and the serum protein level were determined. In 13 both values were high, in 6 high sedimentation rates were found with normal total serum proteins, and in 2 low sedimentation rates were seen in conjunction with high serum protein levels.

In examination of stained blood smears excessive rouleaux formation was noted in 14 of the cases. This phenomenon is thought to be due to increased serum globulins. Autohemagglutination in the red cell counting chamber was noted in one instance. When extreme, this may interfere with the typing and cross-matching of blood. Myeloid immaturity to myelocytes was noted in 11 cases and in 2 cases myeloblasts were seen. Normoblasts occasionally were found, giving in some instances the blood picture of a "leuko-erythroblastic" anemia. Eosinophilia was noted in 3 cases and lymphocytosis in 4 cases.

Foa in 1904 first described myeloma or atypical plasma cells in smears of the peripheral blood. In this series myeloma cells were seen in peripheral blood smears in 17 of the cases, in one case making up 54 per cent of the leukocytic cells in the smear (fig. 1a). This patient had a severe anemia, a leukocytosis (18,400 leukocytes per cubic millimeter of blood) with a very high sedimentation rate (164 mm. per hour), hyperproteinemia, and Bence-Jones proteinuria. Moris-

sette and Watkins[15] in a re-study of peripheral blood smears from patients with multiple myeloma found myeloma cells in 41 of 56 cases. Prolonged search may be necessary and the scanning of smears by the use of the low power of the microscope is often helpful. In 2 patients, both of whom showed leukopenia, I was able to find myeloma cells in buffy coat preparations after failing to find them in ordinary smears.

Three cases in this series could be regarded as "plasma cell leukemia." In all three large numbers of myeloma cells were found in the peripheral blood. One of these patients, dying within eight weeks of the onset of symptoms, had numerous myeloma cells in his peripheral blood, hyperproteinemia, Bence-Jones proteinuria, and typical osteolytic lesions in roentgenograms of the skull. He also showed splenomegaly, hepatomegaly, and severe bleeding from the gums. At necropsy the marrow was found to contain numerous myeloma cells, and there was extensive infiltration of the spleen, liver, and lymph nodes with the same type of cell. As Bayrd and Heck[5] have remarked, however, no particular purpose is served by creating the impression that "plasma cell leukemia" is a separate entity from multiple myeloma.

Plasma Proteins

Ellinger in 1899 is credited with first reporting abnormal plasma protein levels in multiple myeloma. Most of the reports in the literature regarding this matter have appeared since 1928. It has been estimated that hyperproteinemia occurs in from 50 to 60 per cent of all cases of multiple myeloma.

The cause of this hyperproteinemia is still unsettled. The increase is practically always due to the globulin fraction and the albumin-globulin ratio is reversed. Fibrinogen also has been reported as often increased. Shirer, Duncan, and Haden[16] in 1932 and Cantarow[7] in 1935 reported the finding of Bence-Jones protein in the serum of patients with multiple myeloma. Others have contended that the protein in such cases is euglobulin and not true Bence-Jones protein. Cryoglobulins, which precipitate at room temperatures, have been reported as occurring in rare cases.[3]

Adams, Alling, and Lawrence[1] have reported abnormal electrophoretic patterns in the investigation of the plasma proteins of 33 consecutive cases of multiple myeloma. They found an abnormal peak indicating a substance which migrated with a mobility between that of normal beta and gamma globulins, the variability of this peak indicating that it is not produced by a single or constant fraction. In many instances the patterns were regarded as sufficiently characteristic to justify a presumptive diagnosis of multiple myeloma.

Atkinson[2] found 40 instances of amyloidosis recorded in a review of 643 cases of multiple myeloma. This was chiefly of the primary type with deposition in the skin and muscle tissue, although occasionally deposits were found also in the spleen, liver, and kidneys. It has been suggested that the amyloid substance and Bence-Jones protein both may be produced by the breakdown of plasma cells.

In the present series the plasma proteins were determined in 25 cases. In 17 of these there was hyperproteinemia with values ranging from 9.0 to 14.0 Gm. per 100 cc. The elevation was in all instances due to an increase in the globulin fraction with reversal of the albumin-globulin ratio. In 6 cases the plasma proteins were within normal limits while in 2 they were slightly decreased. A protein considered possibly to be Bence-Jones protein was isolated from the serum of one patient who showed both hyperproteinemia and Bence-Jones proteinuria. No cryoglobulin was found in the one case in which its isolation was attempted.

Serum Calcium

The level of serum calcium was determined in 19 cases. In 8 values greater than 12 mg. per 100 cc. were found, the highest being 16, 17.3, and 17.6 mg. per 100 cc. There was no apparent correlation between hypercalcemia and hyperproteinemia. Some have attributed the hypercalcemia of multiple myeloma to the existence of a state of hyperparathyroidism. This seems unlikely since in multiple myeloma the serum alkaline phosphatase is usually normal. In the 4 cases in this series in which values for alkaline phosphatase were determined, they were found to be normal. Acid phosphatase levels were normal in 2 cases. The serum phosphorus level is usually normal but may be elevated in renal failure associated with multiple myeloma.

Renal Complications

Renal insufficiency is a common complication of multiple myeloma and often patients are at first thought to have primary renal disease. Bell[6] has been of the opinion the renal insufficiency results from the plugging of renal tubules with Bence-Jones protein. Foord and Randall[10] have expressed the view that renal injury may result either from the plugging of glomerular capillaries or renal tubules with inspissated protein or from decreased blood flow in the glomeruli due to clumping of the circulating erythrocytes. In the 13 cases of our series in which the blood urea was determined, it was found to be elevated in 8. In 5 of these 8 cases no Bence-Jones protein was found in the urine.

Bone Marrow

The examination of aspirated bone marrow is the simplest and most accurate method for the conclusive diagnosis of multiple myeloma.

In normal marrow, secured by aspiration, mature plasma cells or plasmacytes constitute about 1 per

cent of the leukocytic cells present. The normal mature plasma cell, stained by Romanowsky techniques, is spherical or ellipsoidal in shape, 8 to 20 microns in diameter with an abundant, opaque, deep blue cytoplasm and an eccentrically placed round or oval nucleus containing large dense masses of chromatin arranged in wheel-spoke fashion. There is usually a perinuclear clear zone, and the cytoplasm often contains one or more clear vacuoles. The cytoplasm is usually devoid of granules (fig. 1b). In normal bone marrow immature cells of the plasmacyte series are seldom seen.

The cells of multiple myeloma, as seen in Romanowsky stained aspirated material, more closely resemble the plasmacyte than any other normal marrow cell. These cells, exclusive of the multinucleated forms, vary from 10 to 60 microns in diameter, and sometimes are uniform in size in a given case, sometimes variable (fig. 1c).

The cytoplasm is abundant and is deeply basophilic with Romanowsky stains, the color varying from a deep slate blue to a brighter blue. The cytoplasm is often "pock-marked" rather than clear and homogeneous in appearance. Occasionally there is a perinuclear clear zone. Russell bodies sometimes may be seen in the cytoplasm. The nucleus is often eccentric in position and usually has a chromatin structure finer than that of the plasmacyte, although sometimes a blocky chromatin pattern is seen. One or occasionally more large, bluish nucleoli are visible in many myeloma cells (fig. 1d).

Multinucleated cells commonly are seen. Usually only 2 to 3 nuclei are present, but they may number up to 10 or 12. Mitoses usually are not numerous.

In the past, in addition to the common plasma cell type of myeloma, many different varieties have been described: myeloblastic, lymphoblastic, lymphocytic, myelocytic, lipoblastic, and even megakaryocytoid. As Wintrobe[20] has remarked, there is good reason to doubt the identification of the cells in many of the reported cases. Much of this confusion undoubtedly arose from the study of fixed, sectioned bone marrow. As Bayrd[4] and others have pointed out, since the advent of aspiration methods, nearly all myelomas have been regarded as of the plasma cell type. In the present series all 33 cases were classed as plasmacytomas.

The origin of both normal plasma cells and of myeloma cells is still in dispute. Although many observers have suggested lymphoid tissue as the source of these cells, of late years more and more have inclined to the view that the plasma cell is derived from the reticulum cells of the reticulo-endothelial system and that the myeloma cell is a dysplastic plasma cell.

Bayrd[4] in 1950 in a study of sternal marrow smears from 71 cases of multiple myeloma attempted to correlate the length of survival of patients with the degree of immaturity exhibited by the myeloma cells. On this basis, 10 cases with marked cellular pleomorphism, many mitoses, and notable immaturity had a mean survival time of six months. Fifty-four cases in the intermediate group survived from five to forty-four months. In 7 cases with uniform, mature-appearing cells, 3 patients died in forty-two, sixty, and seventy-one months from the onset of symptoms while 4 were still living at twenty-four, twenty-six, sixty-seven, and eighty-six months. Such a classification would appear to have some prognostic value. What relation this cell maturity will bear to response to therapy with urethane remains to be determined.

The relative number of myeloma cells found in marrow aspirations varies widely. In Bayrd's[4] series of cases myeloma cells made up from 2.5 to 96 per cent of the leukocytic elements present. In our own series from 2 to 67 per cent of all the nucleated cells in the marrow smears were myeloma cells.

SOLITARY MYELOMA

One of the cases in this series was originally regarded as a solitary myeloma of the spine on the basis of roentgenograms alone. After two years the patient returned with multiple lesions of bone and other evidences of multiple myeloma. We have under observation another patient, not included in this series, who has had for four years a large destructive lesion of the left ilium. This has been pathologically proved to be a plasma cell myeloma by both smears and sections. No myeloma cells have been found in marrow aspirates from other sites. Tentatively this is classified as a case of solitary myeloma. Tennent[18] stated that of 49 solitary myelomas of bone described in the literature, 30 per cent ultimately became generalized. Certainly, the final diagnosis of solitary myeloma of bone is not justified unless repeated marrow aspirations have been found negative and unless the patient has been followed over a period of years. Of the extramedullary plasma cell tumors, especially those of the respiratory tract, a certain number ultimately will become associated with multiple myeloma. Waltner[19] expressed the opinion that it is almost impossible to predict the ultimate behavior of an extramedullary plasmacytoma, no matter how benign its microscopic appearance.

DIAGNOSIS

Close cooperation between the clinician, radiologist, and pathologist is necessary in the detection of this disease. In some instances the clinical symptoms are suggestive enough to lead directly to a conclusive diagnosis through marrow aspiration. More often, however, the radiologist or the pathologist must provide the first clue to the disorder.

The careful examination of blood smears in all patients with unexplained anemia, greatly increased sedimentation rates, hyperproteinemia or hypercalcemia may reveal excessive formation of rouleaux and the presence of myeloma cells in the peripheral blood. Such findings are indications for the examination of aspirated marrow.

Care must be used in the interpretation of marrow smears since marrow plasmacytosis may occur in a wide variety of disease such as chronic infections, sarcoidosis, lymphopathia venereum, polyarteritis nodosa, aplastic anemia, monocytic leukemia, and Hodgkin's disease. To confuse the issue further, in certain of these disorders both hyperglobulinemia and marrow plasmacytosis will be found. In some instances, as reported by Fadem and McBirnie,[9] 20 per cent or more of the marrow cells may be plasmacytes. In general, in plasmacytosis mature and degenerating plasmacytes predominate while in multiple myeloma immaturity

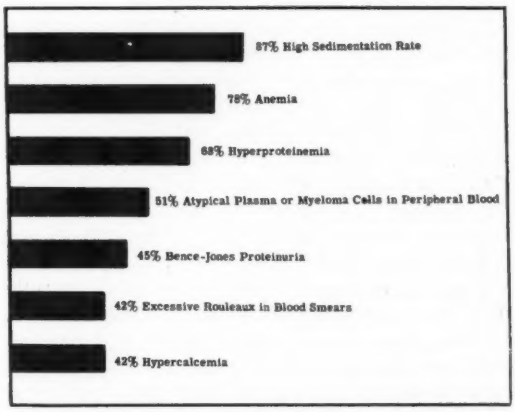
87% High Sedimentation Rate
78% Anemia
68% Hyperproteinemia
51% Atypical Plasma or Myeloma Cells in Peripheral Blood
45% Bence-Jones Proteinuria
42% Excessive Rouleaux in Blood Smears
42% Hypercalcemia

FIG. 2. Graph depicting the percentage of occurrence of abnormal laboratory findings in multiple myeloma.

of varying degrees will be exhibited. In occasional cases, however, prolonged observation and repeated examinations will be required for a conclusive diagnosis.

On the negative side, failure to find myeloma cells in marrow smears does not always rule out multiple myeloma. If other findings are sufficiently suggestive, repeated marrow aspirations from various sites should be examined before excluding multiple myeloma as a possibility. Rarely open biopsy of a tumor may be necessary for diagnosis.

SUMMARY AND CONCLUSIONS

The laboratory findings in 33 cases of multiple myeloma are reviewed. In order of frequency of occurrence the most common abnormal laboratory findings were excessively high erythrocyte sedimentation rates, anemia, hyperproteinemia, the presence of myeloma cells in peripheral blood, Bence-Jones proteinuria, excessive rouleaux formation, and hypercalcemia (fig. 2).

The diagnosis of multiple myeloma is discussed and the need for close cooperation between the clinician, radiologist, and pathologist is stressed.

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ABSTRACT OF DISCUSSION

DR. JOHN PILCHER, Corpus Christi: There seems to be little that I could add to this discussion; there certainly is nothing with which I can disagree. In my small experience with this condition I have found that marrow studies and the finding of a hyperproteinemia with markedly increased globulin are more constant than the classical finding of Bence-Jones proteinuria.

The most interesting thing about multiple myeloma to me is the fact, as brought out by the essayist, that there are several highly characteristic findings, no one of which is constant or diagnostic by itself. There is no doubt that some of these cases are passed by and never diagnosed. The author's suggestion of cooperation between clinician, clinical pathologist, and radiologist, along with a better understanding of the diagnostic criteria, will reveal more of these cases than are now being seen.

AMEBIASIS: A COMMON CLINICAL PROBLEM

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IT is estimated that from 5 to 20 per cent of the American population harbor the Endamoeba histolytica in their intestines, many of these persons having been termed symptomless carriers. Physicians recently have recognized that most carriers actually have low grade digestive symptoms relieved after appropriate therapy and are not truly symptomless. Today an infestation with Endamoeba histolytica is called "amebiasis," whereas formerly it usually was described as "amebic dysentery." It is realized now that infestation with Endamoeba histolytica is more frequently productive of vague constitutional symptoms and gastrointestinal complaints; acute dysentery is the exception rather than the rule.

In diagnosis, the physician should be mindful always of those illnesses which occur commonly and for which a good therapeutic weapon is available. Delay in the diagnosis of an incurable or intractable disease is regrettable, but the patient is not deprived of any specific treatment. However, in the event of a delay or mistake in the diagnosis of a treatable disease, the patient has suffered from the lack of relief to which he is entitled. Amebiasis falls in this category of a treatable disease. Physicians are obligated to be aware of the disease because of its frequent occurrence.

Numerous surveys in the United States have revealed an incidence of from 5 to 20 per cent of amebiasis in the general population. In the practice of D'Antoni in New Orleans, the incidence of positive stool examinations ranges as high as 50 or 60 per cent. Admittedly, D'Antoni has a restricted type of practice in which many patients have this diagnosis established or suspected. Still these figures are a revelation. Reid ran serial examinations of two slides each on three daily stools of a thousand male prisoners admitted consecutively to San Quentin Prison in California. In that group, 9.2 per cent were infested with Endamoeba histolytica. The average of other general surveys has been 5 to 10 per cent. This high incidence is sufficient reason to arouse suspicion of amebiasis in patients presenting themselves for diagnosis and treatment. Although treatment for amebiasis is not ideal, the rate of cure with proper therapy is 70 to 90 per cent with one course of treatment.

CLINICAL FINDINGS

I shall exclude acute dysentery from the discussion of symptoms of amebic infestations because most physicians are aware of the possibility of amebiasis in any acute dysentery syndrome. The patient who presents less explosive symptoms is the one frequently deprived of proper diagnostic thoughts and efforts.

The irritable colon syndrome typifies the complaints often encountered. Many patients given the diagnosis "irritable colon" probably have that syndrome as a result of amebiasis, although other etiologic factors may be responsible. The irritable colon syndrome, well known to most physicians, includes bowel irregularity, usually with constipation occasionally alternating with mild diarrhea, and is associated with the intermittent passage of moderate to profuse amounts of mucus in the stool. The patient frequently complains of abdominal distention, gaseous rumbling in the abdomen, and enlargement of the abdomen after eating. He may experience abdominal cramps and vague discomfort in any part of his abdomen. Usually there is an absence of any past history of true dysentery, particularly the bloody-flecked mucoid diarrhea characteristic of acute amebic dysentery. Other complaints are lassitude, fatigue, irritability, capricious appetite, and all the vague and nondescript symptoms commonly labeled "neurasthenia" or associated with an irritable colon of psychogenic origin. Usually no leukocytosis or abnormal laboratory finding other than the presence of the parasite in the stool is noted.

Physical findings are often minimal. Frequently there is a slight tenderness in the cecal region, which, I believe, is common in normal persons. D'Antoni has mentioned the occurrence of a dusky, faded suntan appearance of the skin of children associated with irritability and emotional lability which clears readily on appropriate therapy.

A few patients have hepatic enlargement representing what Sodeman terms "hepatomegaly associated with amebiasis," implying intestinal amebiasis with an enlarged, slightly tender liver with no findings of a true amebic hepatitis or amebic abscess of the liver. When these patients are treated for their intestinal infestation, the hepatomegaly subsides without specific therapy directed toward hepatic amebiasis.

Other cases show true amebic hepatitis which may progress in a more severe form to amebic abscess of the liver. This hepatitis is characterized by more pronounced tenderness of the enlarged liver, associated with pain on deep pressure or fist percussion over the liver. Later, there is reduction in excursion or complete immobilization of the right side of the diaphragm, slight icterus, elevation of the white blood cell count, and fever of varying degree. Often

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liver function tests are normal even in the presence of other findings of hepatic involvement. These symptoms do not subside with ordinary intestinal amebacides but must be treated with specific remedies directed toward hepatic amebiasis.

DIAGNOSIS

The diagnosis of amebiasis rests ultimately on the demonstration of the Endamoeba histolytica in the stool specimen. Tests such as complement fixation and amebic stool culture have been devised to supplement this fundamental diagnostic procedure. None have proved of great clinical value. The lack of trained laboratory technicians and parasitologists increases the difficulty in obtaining positive stool reports. Faust stated that proficiency in stool parasitology necessitates the examination and study of stools eight hours daily for six to twelve months. Few laboratory technicians or practicing physicians ever can acquire this training. Many physicians work with laboratory personnel who are not technically proficient in the diagnosis of amebiasis and most laboratories are inadequate in the proper diagnosis of this infestation.

A review of the literature on amebiasis reveals a lack of agreement among parasitologists as to the best method of finding the ameba. Some state that best results are obtained by examination of normally passed stool specimens, while others maintain that examination of one saline purged stool is equivalent to the examination of three formed stools. Other procedures advocated include the zinc sulfate flotation method, in which the amebic cysts are isolated by a gravity technique; the identification of motile trophozoites; and the examination of several permanent slides stained by the iron hematoxylin method, a time-consuming and tedious procedure. This disagreement as to examination method is so pronounced that at the last panel on amebiasis of the American Society of Tropical Medicine. Sodeman stated that in view of existing disagreement, the clinician is faced with the decision of accepting or rejecting a laboratory diagnosis. Proper stool examination, even with trained personnel, often is prolonged work for which many clinical laboratories cannot allot a sufficient amount of personnel and time. The examination of stools for six to ten days seldom is practical for most office patients.

Sigmoidoscopy usually reveals the rectal mucosa to be normal. With extensive involvement or more active symptoms, shallow, irregular, small ulcers may be seen in patches with normal surrounding mucosa. The extensive involvement of acute dysentery usually is lacking.

Roentgenologic examination of the colon utilizing barium enema studies may reveal shallow ulcerations in the cecal region manifested by feathered, irregular margins of the cecum on the film taken with the colon filled with barium. Rarely there may be an annular granulomatous mass simulating carcinoma. A third finding of presumptive but not diagnostic value is a conical narrowing of the cecal tip associated with a ready reflux of barium into the terminal ileum. Frequently the barium enema examination is normal.

Because of these factors and the relative lack of toxicity of amebacidal drugs, a therapeutic trial of antiamebic medication is often of practical clinical value. Admittedly, this approach is unscientific and has obvious disadvantages: (1) there is no laboratory proof that the patient's complaints are those of amebiasis, and (2) the clinical response constitutes the only criterion for cure. The patient must be subjected always to other diagnostic procedures, particularly sigmoidoscopy and gastrointestinal roentgenography, to obviate the empirical treatment for amebiasis of a patient suffering from colonic neoplasm or other detectable abnormality. If amebiasis is present in 10 per cent of the general population, then 10 per cent of patients with peptic ulcer, chronic nonspecific ulcerative colitis, neoplasia, and other gastrointestinal disorders may have amebic infestation independent of their other abnormalities. With recognition of these pitfalls, in my opinion a doctor is justified in a therapeutic trial after an intensive negative search for the parasite.

TREATMENT

Amebacidal drugs fall into several groups. The alkaloid, emetine hydrochloride, which is used primarily in the treatment of acute dysentery and amebic hepatitis, has no place in the treatment of chronic low grade colonic amebiasis. The necessity for close observation for toxicity should be recognized. A daily intramuscular dose of 65 mg. for six or seven doses may have a dramatic effect on dysentery or hepatitis symptoms. In overdosage, the preparation is cardiotoxic. The daily administration should be preceded and followed by blood pressure and pulse determinations, and electrocardiograms should be made before and after the course of therapy.

Iodoxyquinolines constitute the second group of amebacidal drugs. These are iodine derivatives of oxyquinoline with various modifications in the organic formulas. Commercially, they are known as Vioform, Diodoquin, Yatren, and several others. The dosage varies. Vioform is marketed in 250 mg. tablets; 1 tablet is given three or four times daily for ten to fourteen days. Diodoquin is prepared in 210 mg. tablets and administered in doses of 3 tablets three or four times daily for ten to thirty days. Recent reports on Diodoquin reveal that its therapeutic effi-

cacy is lower than originally reported, but there is no explanation for this revised estimate. Yatren (chiniofon) usually is given in 1 Gm. doses three times daily for seven to ten days. Of this group, I have noted Vioform to be the best tolerated and most productive of satisfactory results. Yatren produces nausea and diarrhea, which are disadvantageous, particularly in therapeutic trial in which drug toxicity and side effects should be minimal.

Arsenicals comprise the third group of drugs. Chief among these is carbarsone, which is marketed in 250 mg. tablets and capsules. The dosage is 1 tablet two or three times daily for ten days. Arsenicals should not be used in the presence of severe liver or kidney damage or known intolerance to arsenic. Patients should be warned that they may experience slight cramping and occasional loose stools during the treatment with carbarsone. For this reason it is a poor drug with which to initiate a therapeutic trial. In recent years, modifications of Carbarsone, carbarsone oxide and the thioarsenites, have been introduced. However, they are still experimental. Recently, Winthrop-Stearns, Inc., marketed a new drug, Milibis, a compound of arsenic and bismuth. I have had little personal experience with this drug. An insoluble compound that remains in the intestinal tract, it exerts its greatest therapeutic effect in intestinal amebiasis. Because of the relative lack of absorption, the toxicity is low. Only a few articles on this drug have appeared and its results rival, but apparently do not exceed, the effectiveness of the other amebacides. Acetarsone has no place in therapy because of its toxicity.

Chloroquine (Aralen), an antimalarial medication, has been advocated recently in the treatment of hepatic amebiasis. Its therapeutic effect results from a concentration five to six hundred times in the liver, where it exerts its primary amebacidal action. It has no appreciable effect on intestinal amebiasis and its only rational use is in the treatment of amebic hepatitis or liver abscess in which the results often are dramatic. Chloroquine eventually may replace emetine for this use. The drug is marketed in 250 mg. tablets and given in doses of 4 tablets daily for two days, then 2 tablets daily for a total period of two weeks. Side effects include nausea, vertigo, and digestive complaints but little severe toxicity.

The antibiotics, particularly Aureomycin, bacitracin, and terramycin, have been reported recently as having marked antiamebic effect. Their primary action may be the eradication of intestinal bacteria, the presence of which seems to be necessary for the growth and multiplication of ameba. The results are promising but inconclusive, and the expense precludes the widespread use of these agents unless their therapeutic success is significantly greater than that of the older remedies.

In giving a therapeutic trial of antiamebic medication, the physician informs the patient that his symptoms may be due to amebiasis, although the parasite has not been demonstrated in stool examinations. Without attempt to influence his expectations, he is given a ten day course of Vioform, exclusive of other therapy. The patient is informed that this therapy may or may not relieve his symptoms. After the ten days, if unequivocal improvement is noted, a ten day course of carbarsone is administered, followed by a repeated course of an iodoxyquinoline. Results might be attributed to psychotherapy. However, most of these patients have had other symptomatic therapy without benefit, and it is unlikely that these drugs have any better psychic effect than the antispasmodic and bulk bowel regulators with which they have been treated previously.

Occasionally, symptoms will be markedly but not completely alleviated following a complete course of therapy. There may remain for several months a true irritable colon after eradication of the parasite, especially in the case of acute amebic dysentery. In those instances, therapy with low residue diet, antispasmodics, and hydrophilic colloids are utilized for several months. Such symptomatic medication should not be used during a course of therapeutic trial because evaluation of response would be impossible. Slight or equivocal therapeutic response with antiamebic drugs should be interpreted with caution. Within six months a significant number of patients will experience a relapse or reinfestation. A more intensive or prolonged course of treatment may be necessary, and other members of the household should be examined as a source of infestation.

SUMMARY

The syndrome of chronic low grade amebiasis is described and the difficulties in clinical and laboratory diagnosis are stressed. Incidence of the disease is emphasized and the commonly used antiamebic drugs are discussed. Empirical therapy is suggested in certain instances. Properly used and evaluated, the therapeutic trial is satisfactory and produces gratifying results. Patients should not be permitted to suffer from the symptoms of this correctable condition merely because of the recognized difficulty in the laboratory demonstration of ameba.

Medical Arts Building.

ABSTRACT OF DISCUSSION

DR. W. C. TAYLOR, JR., Calvert: In recent years there has been a tendency on the part of many doctors to evade taking good histories and to neglect evaluating the individual patient. In no condition is this tendency more true than amebiasis. The great men in medicine have said that a proper history, properly interpreted, always will give the

diagnosis. Certainly, since parasitologists agree that the laboratory diagnosis is indefinite in this condition enough information may be gained from the history and physical examination to justify a therapeutic check, which within itself may prove diagnostic. A positive stool is conclusive but a negative stool certainly does not mean that the patient does not have amebiasis.

Bargen believes that no patient should be treated in the absence of a positive stool. I am glad that Dr. Harvill does not agree with him in this theory. A well-trained general practitioner probably has the best opportunity to diagnose chronic amebiasis, especially if he has known his patients well for years and understands their hereditary characteristics and environments. A patient with chronic amebiasis would consult such a doctor far more readily than he would anyone else.

I believe there is too great a tendency to fear emetine hydrochloride. Toxicity almost never results when the drug is used in its proper dosage. I have not hesitated to use it for the past twenty-three years and have never regretted its use. It is my belief that carbarsone must be taken twice daily, beginning when emetine therapy is instigated. If Milibis is used rather than carbarsone, it is given in the usual dosage of 2 tablets three times a day for eight days. Medication should be repeated after a seven to ten day rest period. All doses must be modified for children. Obviously, any drug which manifests toxic symptoms should be discontinued.

Although occasionally a patient will require cardiography, I do not think that an electrocardiogram is necessary before and after each course of therapy with emetine hydrochloride. Although results often are dramatic in acute amebiasis and in acute exacerbations of chronic cases, the preparation should not be feared when used in therapeutic dosages. Bargen is of the opinion that chloroquine will replace emetine. I have had no experience with chloroquine.

Dr. Harvill does not mention the sulfonamides, but I am sure that he uses them just as he does the antibiotics. Sulfasuxidine has been helpful with certain of my patients.

The estimated high incidence of amebiasis justifies study to determine the source of infection. Careful consideration must be given to water supply, food supply, food handlers, sewage disposal, and possible carrier insects.

TREATMENT OF PINWORMS (OXYURIASIS)

Clinical Evaluation Based on 1,005 Cases

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ONE of the most important pediatric problems today is the prevention and therapy of pinworm infestation. Pinworms are not the figment of the mother's or grandmother's imagination, but are a distinct clinical entity and a real therapeutic challenge.

The exact incidence of oxyuriasis (Enterobius vermicularis) in the United States is not known, but reliable reports by Cram,[4] Hitchcock,[10] Miller and Finhorn,[18] Brady,[2] Heilmann,[9] and others indicate that from 15 to 90 per cent of the population may be infested at various localities and at various times. The incidence in our patients checked over a four year period was 32 per cent (627 out of 1,970 tested—W.P.K.). The incidence appears to be lowest in adults and Negroes. Among children, the school age group has the highest rate, with no significant difference between males and females. Children of large families are more often infested than those of one child. Small babies may become infested from other members of the family (youngest in our series was 5 weeks of age—W.P.K.). There is no statistical evidence to show that the family social or income levels has any bearing on the rate of pinworm infestation. Thumb suckers and nail biters are more susceptible than other children. When one member of the household is infested, the entire family must be considered as affected for therapeutic and preventive measures. Families related to those having pinworms and neighborhood families whose children intermingle at play likewise must be considered as contaminated.

Perhaps the way to emphasize the importance of oxyuriasis is to state that pinworms are as common as the common cold.

DIAGNOSIS

The diagnosis of pinworms is essentially a laboratory procedure, although they may be suspected clinically in many cases. As a matter of fact, many mothers will bring a child in for treatment because they have observed worms in the child's stool after an enema, a bout of loose bowels or diarrhea, or following a laxative. Sometimes the neighbors or grandmother insists that the child has worms because of some vague symptoms or complaints. Others will report oxyuriasis after finding worms in the vulva (usually at night) when the child has complained of pain or itching in that area or when the child has a slight morning discharge.

The use of the NIH[8] anal swab or one of its modifications[12] is essential for diagnosis and follow-up to determine the efficacy of treatment. These methods are simple and easily done in the home or

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office. It must be emphasized that these methods of diagnosis must be used in the morning before the child has defecated or been cleaned about the anal area. From 90 to 100 per cent of pinworm cases may be diagnosed by such methods.

We use a tongue blade and Scotch tape for diagnosis and follow-up (fig. 1). All children in whom pinworms are found should have a stool examination to rule out other concomitant worm infestations, such

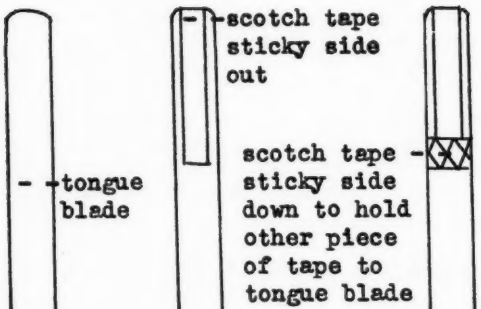

FIG. 1. Instruction for Scotch tape test for pinworms. In the morning on arising, before the child goes to the bathroom or has been cleaned, pull back the buttocks and apply the tip of the applicator with Scotch tape to the anal ring. Release the buttocks for one minute. Remove the swab. Wrap the used end with wax paper (hold on tongue blade with rubber band). Write the child's name, address, and date on the other end. Bring to office (laboratory) the same morning.

as roundworm and hookworm, prior to pinworm therapy.

The percentage of cases diagnosed increases with the number of perianal swabs[10] used and examined up to six or more, and the rate of cures diminishes with the number of checkup swabs once the symptoms disappear or the child shows improvement in general health.

CONTROL

One difficulty in detecting pinworm infestations and determining cures (in addition to poor cooperation of parents) lies in the periodicity of the oxyuriasis infestation. The infestation builds up to a peak in from three to five weeks, then subsides to a subclinical stage, then builds up again. After being swallowed by their human host, the microscopic pinworm eggs hatch in the small intestine into young oxyurids of both sexes. There they grow rapidly to sexual maturity and mate in the ileum and cecum. The male worm dies and disintegrates, but the gravid female migrates down to the rectum and anus to emerge soon after its human host has gone to sleep. After migrating from the anus the female pinworm deposits approximately 10,000 fertilized eggs in, on, or about the perianal folds and dies soon thereafter. It has been estimated[10] that in a heavily infested host a group of female oxyurids may deposit as many as one-half million eggs during a single night. The motility of the oxyurids and the depositing of the eggs explain the anal itching and restless sleeping of the host. By way of scratching fingers and finger nails, the eggs may be transferred to the mouth of the host, and a new life cycle of the Oxyuris started. Estimates by authorities[2, 3, 4, 7, 11] indicate that the time required for a complete life cycle for the pinworm may vary from ten to sixty days. This cycle may account for the poor results obtained in treatments given for periods of less than six to eight weeks.

Man is the only natural host of the Oxyuris, and this peculiar biologic adaptation to men alone has assured its survival despite all of the many personal hygiene habits used by modern civilization.

Pinworm eggs are microscopic in size; they are light enough to float in the air of an infected household and may be inhaled or swallowed. Likewise, they are able to contaminate every conceivable article of clothing, books, toys, and furniture, thus setting up countless routes for reinfestation. Further to compli-

FIG. 2. Low power picture of pinworm eggs taken with the Scotch tape method. Note the layers covering the embryo.

cate preventive methods, the eggs (fig. 2) possess a three layer covering, composed of two outer layers of chitin and an inner layer of lipoid material (sterol). This covering to date has withstood all of the common fumigating gases and antiseptic solutions.

Boiling and prolonged soaking will kill and devitalize these eggs. Recently one of us (W.P.K.) has shown that ordinary household ammonia in a 1:160 (2 teacups to 10 gallons of water) dilution is effective in destroying or devitalizing eggs in one hour at room temperature of 70 to 75 F. This ammonia water is used for bed clothes and sleeping garments. In the

alkaline media of the small intestine, with a hydrogen ion concentration ranging from 5 to 6, the outer coat of the pinworm egg is dissolved, allowing the pinworm to begin its life cycle. The ammonia water also releases the embryo, but it dies as it has no source of food. Boiling and soaking is applicable only to sleeping garments, bed clothes, and some types of toys. The use of vacuum cleaners on rugs and furniture will reduce the number of fresh eggs in an infested household. Vanni[19] has stated that some substance in raw garlic kills both eggs and worms in vivo. It has been shown[4, 11] that pinworm eggs die as the humidity is lowered and/or the temperature is raised. That is, temperatures between 65 and 100 F. and relative humidity of 40 to 70 per cent are more conducive to survival of the eggs than temperatures above and humidity below these figures. Tests in vitro indicate that pinworm eggs are unable to survive freezing temperatures for longer than one to three days. These data indicate that pinworm infestations are probably more prevalent in the summer months and/or in the warmer, more humid areas. Air-conditioned homes or rooms that can be superheated may be factors in controlling pinworm infestations. One of us (H.L.B.) insists that an important part of pinworm therapy is the superheating of all sleeping rooms to 134 F. daily. We believe that the high humidity and year round subtropical temperatures in this area are important factors in the high rate of infestation which we observed.

Although pinworms are not confined to the lower social and economic levels, crowded living conditions, poor facilities for personal hygiene and laundry, faulty heating, and excessive humidity are factors which influence the severity and prevalence of Oxyuris infestations. It is true that pinworm eggs are washed down the drain in homes with good plumbing. People who use shower baths or children given stand-up type of baths have a lower rate of infestation.

The relationship of oxyuriasis to appendicitis varies considerably with the various authors[1, 5, 6, 20] but the consensus is that from 5 to 10 per cent of all cases of appendicitis are related to pinworms. We have seen cases of chronic appendicitis in children associated with Oxyuris in which it was not possible to get rid of pinworm infestation until after the appendix was removed. The appendix in each case was filled with Oxyuris. The involvement of the appendix is twice as high in females as in males.[1] Four of our cases were in females.

SYMPTOMS

Symptoms attributed to oxyuriasis are multitudinous,[2, 4, 5, 7, 11, 12, 13, 14] but in our experience (1) anal itching, (2) restlessness at night, (3) irritable fatigue, (4) nocturia, (5) nonspecific vaginitis in girls, (6) anorexia, (7) vague abdominal pain, and (8) pallor with dark circles under the eyes are most commonly seen in heavy infestations. Less than 25 per cent of children with pinworms have symptoms of enough severity to warrant a clinical diagnosis. Most cases are found in routine checkups in children who are seen for vague complaints or who are just not doing as well as the parents feel they should. In our respective clinics all children with vague symptoms and complaints are routinely checked for pinworms.

TREATMENT

Many drugs by mouth and by rectum have been used singly and in combination for the treatment of oxyuriasis. Recently Ranjan[14] listed thirteen oral preparations and twelve rectal solutions for treatment. Sisk[17] has given six other preparations by mouth. Most of the drugs listed for therapy have not been used by us because of toxicity, questionable value, and lack of availability.

In our study we have used the following drugs (table 1): (1) hexylresorcinol (Caprokol or S. T.—37) orally and as enemas, (2) tetrachlorethylene, (3) gentian violet enseals, (4) tripelennamine hydrochloride (Pyribenzamine), (5) parabenzylphenylcarbamate (Diphenan), and (6) raw garlic or deodorized garlic tablets (Allisantin). Of all drugs used we feel that our results with tripelennamine hydrochloride and parabenzylphenylcarbamate with enemas and raw garlic have been the best.

TABLE 1.—*Results of Treatment of Pinworms with Various Drugs.*

Therapeutic Agent	Cases	Tests after Treatment		
		Positive	Negative	% Cured
Tetrachloroethylene*	5	4	1	20
Hexylresorcinol†	6	6	0	0
Hexylresorcinol enemas only‡	56	35	21	36
Tripelennamine hydrochloride with hexylresorcinol enemas	403	110	293	56
Gentian violet enseals with hexylresorcinol enemas	161	53	108	66
Parabenzylphenylcarbamate with hexylresorcinol enemas	211	39	172	77
Garlic, raw or deodorized§	163	21	142	87
Total cases	1,005‖	268	737	

*These patients had hookworm plus oxyuriasis and were treated primarily for hookworm.

†These patients had ascariasis and oxyuriasis and were treated primarily for ascariasis.

‡All were infants less than 1 year of age.

§An additional 164 cases have been treated with no follow-up except expressions of enthusiasm from the mothers.

‖Dr. P. R. Meyer treated 248 cases, Dr. H. L. Boardman 280, Dr. I. M. McFadden 72, and Dr. W. Price Killingsworth 405.

Because of the small number of cases treated with hexylresorcinol orally and tetrachlorethylene, we attempt to draw no conclusions, except to state that hexylresorcinol is toxic to some children and must be used with caution. Most of the difficulty has followed the use of this drug per rectum, full or half strength. Many children cannot take this preparation by mouth without nausea, vomiting, and signs of shock. One of us (H.L.B.) has seen 2 such cases.

Hexylresorcinol enemas alone were given to 26 babies less than 1 year of age (youngest 5 weeks). The regimen was as follows: 2 tablespoonsful of hexylresorcinol mixed with 4 ounces of warm tap water were given slowly at bedtime for seven consecutive nights, followed by a liberal application of carbolated Vaseline to the anal and perianal area. A rest period of seven days was followed by seven more nights of the hexylresorcinol enemas and carbolated Vaseline. The results were poor; only 36 per cent became negative.

Gentian violet enseals with hexylresorcinol enemas were given to 91 children ranging from 3 to 15 years of age. The total daily dose of 10 mg. per each year of apparent age was divided by three and given thirty minutes before meals. We had 66 per cent cures. Table 2 lists the routine instructions given to parents.

TABLE 2.—*Instructions to Parents.*

In addition to medication prescribed, the following precautions should be observed:

1. Apply carbolated Vaseline liberally to rectal area and sex organs after each enema. Wash off in morning with soap and water.
2. Snug cotton drawers or panties should be worn under pajamas or sleeping gowns.
3. Wash child's hands before each meal, and clean nails daily and cut them short.
4. Child should sleep alone and have its own bed clothing, wash cloths, napkins, nail brush, and tooth brush. Do *not* exchange clothing.
5. All sleeping clothes and soiled bed linen should be folded without shaking each morning and soaked in ammonia water (2 cups of household ammonia to 10 gallons of water) for 1 hour or boiled before being laundered. Most toys can be sterilized in a hot oven for 15 minutes.
6. Vacuum clean rugs and upholstered furniture daily.
7. Sleeping rooms should be aired well each day.
8. Give your child a shower bath or stand-up bath daily, preferably in the morning.
9. All members of your household should be treated for pinworms at the same time.
10. If your child has nausea, vomiting, abdominal pain, or diarrhea, please report by phone immediately.
11. Bring to office (laboratory) Scotch tape anal swabs taken on the morning of the 10th, 20th, and 30th days of treatment.
12. If symptoms or worms reappear one month or later after treatment, report by phone.

We have found that if carbolated Vaseline is applied to the anal area, it relieves the itching and gloves need not be worn. Likewise, proper cleaning of the nails and hands precludes too much emphasis on fingers in the mouth and thumb sucking. The three main objections to gentian violet enseals are as follows: (1) many children had difficulty in swallowing them; (2) more than 50 per cent had nausea, vomiting, and abdominal pain, singly or in combination; (3) some tablets failed to dissolve in the gastrointestinal tract. Gentian violet is also contraindicated in renal or hepatic disease.

Our results were not as good as expected. In all of the cases in which reactions occurred it was difficult to get the parents to continue with reduced doses or the period over which the preparation had to be given was so prolonged that most parents preferred to give up. It is possible that the regular use of carbolated Vaseline to the anal area is as effective as the enemas. Enemas are hard to give without entailing further contamination. Most parents are incapable of doing a safe job with a wiggling, screaming child to handle. The enema might be given in the bath tub and then both child and tub cleaned. Psychologically enemas are bad for some children and some parents.

Tripelennamine hydrochloride with hexylresorcinol enemas were given to 315 children from 1 to 15 years of age. The daily dose of 2 mg. per pound of body weight was divided by three and given before breakfast, lunch, and supper. For children unable to swallow the tablets the elixir of tripelennamine hydrochloride was used. The elixir has a vile taste and must be cut with some syrup to make it palatable or the child will rebel after one or two doses. Tripelennamine hydrochloride was given in two ways; (1) three times daily for ten days, rest one week, and repeat for ten days, or (2) three times daily for five days, rest five days, repeat for five days, and rest five days. The general instructions to parents were the same as for other drugs used in this study.

Our over-all cures with tripelennamine hydrochloride was 56 per cent. One of us (H.L.B.) has treated 250 cases with tripelennamine hydrochloride and alone believes that it is the treatment of choice; she obtained 80 per cent cures. She believes that in addition to our routine instructions (1) all sleeping rooms should be heated to 134 F. for from two to three hours daily during the treatment and (2) mattresses should be ironed daily with a hot iron.

The exact nature of the action of tripelennamine hydrochloride on the pinworm is not known, but it is thought that the drug anesthetizes the adult worms, thus allowing them to be eliminated from the gastrointestinal tract. Most children tolerate tripelennamine hydrochloride well, but it is still an antihistamine and should be used with care. Unusual drowsiness was seen in less than 10 per cent of the cases treated. This drug has no contraindications unless the child becomes excessively drowsy. Some show excitement and many anorexia. Leukopenia has been reported with frequent repeated treatments. More study with tripelennamine hydrochloride and some of the other antihistamines should be done.

Parabenzylphenylcarbamate with hexylresorcinol enemas were given to 151 children from 3 months to 15 years of age. Infants up to 18 months received ¼ wafer (0.125 Gm.) three times daily after meals for fourteen days, nothing for one week, and the original dose for fourteen days. Children up to 8 years received ½ wafer (0.25 Gm.) and older children 1 wafer (0.5 Gm.) on the same schedule. The wafer, which has a pleasant wintergreen flavor, may be

chewed or crushed in food or milk. We have seen no untoward reactions to this drug, but it is contraindicated in kidney disease. The drug is odorless, tasteless, and almost insoluble in water. Parabenzylphenylcarbamate in the small intestine liberates parabenzylphenol, which in a 1:4,000 dilution is known to kill oxyurids in from five to ten minutes.[16]

Our results with parabenzylphenylcarbamate have been good (77 per cent cures). This drug is our second choice for the treatment of oxyuriasis because of its ease of administration, pleasant taste, and lack of toxicity. However, the drug has one drawback, its high cost.

Raw garlic (or deodorized garlic as tablets) is a reliable and easily administered treatment for pinworms. Vanni[19] and one of us (I.M.McF.) believe that it is the treatment of choice. They use no other treatment. Our results in this series have been short of spectacular as compared to other treatment methods (87 per cent cures). Garlic has two disadvantages in that it is odoriferous and some children refuse to take it in any form by mouth. Like all other treatments, it is prolonged. We recommend (1) that one dose (button or pod) be given every other night for two weeks, rest one week, and repeat for two weeks (this covers the life cycle of the Oxyuris) or (2) that one dose be given nightly for three nights then one dose weekly for from six to eight weeks. We recommend that raw garlic be chopped finely and mixed with honey, given with a fat free evening meal or at bedtime. Carbolated Vaseline is used with garlic to control anal itching. We believe that enemas are not necessary with garlic. Vanni[19] has used a daily dose of deodorized garlic of three tablets for children and six tablets for adults and adolescents. These doses are given for ten days every month for six consecutive months. He also used a clyster of 200 cc. of garlic in milk every day or every other day while the tablets were being given. We have not given garlic per rectum, nor have we used liquid garlic preparations by mouth.

The outstanding features of the garlic treatment for pinworms have been that mothers have called and told how effective it is and how much better the children are sleeping, playing, and eating and that symptoms have disappeared rapidly after a course of garlic. Subsequently it has been more difficult to get parents to send in check-up anal swabs. The reason for checking anal swabs during treatment is to determine the adequacy of dosage. Many children require larger dosage than their age and weight would dictate.

We have had no experience with piperazine, an organic dye, currently used by some French investigators.[15]

SUMMARY AND CONCLUSIONS

Although the diagnosis of oxyuriasis is a fairly simple procedure and the symptoms are mild as a rule, the treatment and the prevention of reinfestation is tedious, time consuming, and somewhat expensive. More than 50 per cent of the poor results obtained are due to lack of cooperation on the part of parents of pinworm infested children because of the length of treatment, the tedious hygienic regimen, and repeated reinfestation.

Pinworms are a pediatric and public health nuisance, a health hazard, and an economic problem. They are as common as the common cold. These helminths are difficult to eradicate from the human host and the prevention of reinfestation is a major chore.

Many drugs have been used for treatment, but of them (1) raw garlic, (2) parabenzylphenylcarbamate, (3) gentian violet, and (4) tripelennamine hydrochloride are the most effective in that order. Additional study with antihistamines and garlic in the treatment of oxyuriasis is indicated. Oxyuris eggs are difficult to kill. Boiling and the use of ammonia water (1:160 dilution) are the most effective procedures. More accurate data on the viability of the pinworm egg under variable temperature and humidity changes are needed.

Physicians should follow up and correlate their treatment methods more carefully.

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ABSTRACT OF DISCUSSION

DR. JOHN A. WELTY, Harlingen: This excellent paper by Dr. Killingsworth and his colleagues crystalizes the pinworm problem and summarizes treatment methods. In my office the treatment of pinworms is one of the five most frequent demands from parents. The layman cannot understand why his own clean wholesome child has something as plebian and unsanitary as "worms" and thinks that it is a simple matter for the doctor to telephone a prescription for some pills which will promptly eradicate the disgraceful scandal. On the other hand, the physician is either a little bored with such a benign condition, too busy to describe in detail to the parent the important accessories to the medical treatment, or completely confused by the conflicting opinions of success and failure with the many agents that have been used and therefore is pessimistic about the entire problem.

The Scotch tape test for pinworm ova described is simple and can be used in any medical office possessing a microscope, yet it is surprising how many stool specimens are sent to laboratories. As shown in the discussion of the life cycle and habits, examination of the stool alone usually gives the physician and family a false sense of freedom from pinworm infestation.

The authors have evaluated these therapeutic weapons and outlined a therapeutic program. The importance of the accessory treatments in clearing oxyuriasis is worth emphasizing; getting the medicines down the child and keeping them down is not enough! Many parents give pills for alternate weeks for months and yet do not enforce strict toilet habits, the washing of hands before meals, the trimming of fingernails, and the changing of the bed clothes or the underclothes of the child. Most physicians are guilty frequently of treating one child instead of the entire family and other intimate contacts, and thus the problem returns in a short period. Any safe method which controls anal pruritis helps to prevent scratching and its attendant share in the completion of the life cycle. The authors have advised the use of snug underpants and the perineal application of carbolated vaseline; at times, also, rectal instillation of Rectalgan throughout the treatment period helps to decrease rectal scratching.

In our office a program combining gentian violet and Diphenan with quassia chip infusions rectally has been used with fairly good results in those cases in which the parents have been thorough with the accessory treatments. We were of the opinion that gentian violet was the chemical of choice until reading the carefully documented statistics in this paper. For the last five months we have been using thymol n-isoamylcarbamate (Egressin), which has not been released for general distribution at this date, and from enthusiastic reports in the German literature as well as our own as yet meager evidence, believe that it will be one of the least toxic and most effective agents for pinworm treatment.

MANAGEMENT OF BURNS IN CHILDREN

Newer Concepts

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THE problem of tissue damage in children from chemicals, boiling water, open flames, hot stoves, or floor furnaces is a ubiquitous danger.[1] We will discuss in this presentation the physiologic approach to the problem including a revised means of treatment, the "open-air method," in order to lessen morbidity and obtain the best possible functional results.

In using any method of treatment primary consideration should be given to the patient as a whole rather than to the local management of the burned area or areas. Nutritional requirements should be fulfilled by applying fundamental knowledge of calories, water, protein, carbohydrates, fat, minerals, and vitamins.

Before trying the open-air or exposure method of treatment of acute burns at the University of Texas Medical Branch, we had used, with good results, standard pressure bandages over Furacin-impregnated gauze for fresh burns and a wet dressing of 1:4,000 Zephiran chloride with .25 per cent acetic acid as soon as frank infection appeared. In local therapy, we endeavored to change all burn dressings in the operating room with the assistance of a specially trained burn team and an anesthetist to provide analgesia. During the past year, we have endeavored to evaluate critically the open-air method of treatment. This method is important because of the practical application to mass therapy in case of fire or bomb casualties.[4]

As early as 1905, good results were obtained by open-air therapy for burns as reported by Haldor Sneve.[8] This method was popular for a number of years but was abandoned gradually, except for sporadic use, largely because early grafting was no

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practiced routinely and patients with third degree burns developed an overwhelming infection beneath the neglected slough. If the patients survived the infection, they developed marked deformities.

A great many eschar methods such as tannic acid, tannic acid-silver nitrate, gentian violet, triple dye, and protein extract have been popular. Most of these have been used less extensively in recent years since many of these agents have proved to be protoplasmic poisons and in some instances it has been thought that the absorption of toxic materials resulted in the death of the patient. Chemical eschar therapy is merely an extension of the exposure method, that is, an endeavor to provide a dry surface under which healing of moderate to severe burns can proceed rapidly, to avoid the pain produced in changing adherent dressings, and to simplify nursing care. These factors are particularly important in children. The tannic acid technique was received well, partly because at the same time emphasis was being placed on the use of transfusions of whole blood and other measures to combat burn shock and to provide supportive care in the recovery period.

METHOD OF THERAPY

Since the opening of the burn center at the Special Surgical Unit of John Sealy Hospital, our chief aims have been to treat shock; to restore circulating red cells; and to overcome electrolyte, fluid, and protein imbalance. Whole blood is the replacement fluid of choice from the beginning since it not only restores the circulating plasma volume but helps to relieve anoxia of body tissues and overcome absolute and relative loss of red cells.[2] Complicated formulas were used formerly to estimate total blood and fluid requirements for the initial phase of therapy. Now we believe that by substituting oral saline bicarbonate solution (3.5 Gm. of sodium chloride and 1.5 Gm. of sodium bicarbonate to 1,000 cc. of distilled water), all routine intravenous solutions can be avoided except for blood and occasionally Ringer's lactate solution, if the patient is vomiting and unable to tolerate anything by mouth.

The amount of blood to be given varies according to the amount of shock and the clinical response. If the patient remains in shock and if the hematocrit remains more than a 50 per cent volume of packed red blood cells, transfusions are given until the patient's condition is satisfactory as judged by urinary output, which is perhaps the best index for administration of supportive fluids. The urinary output should be maintained at 25 cc. per hour as a minimum.

The use of oral alkaline solutions has been discussed ably by Moyer, who did some of the fundamental experimental work on this subject as related to burns and who recently has restated the problem in a paper on chemical supportive therapy. This paper[6] emphasizes the salient points with regard to water intoxication in patients allowed to drink ordinary tap water freely during the shock-edema stage. During the past three years we have noted on our service the remarkable decrease in the incidence of nausea and vomiting, the almost complete absence of delirium, muscular twitching, restlessness, and other signs of cerebral irritability when no water was given orally. If oliguria is present, after the shock phase is over particular attention is given to the restriction of total fluid intake to the amount of urinary output plus an allowance for insensible loss of water.

Forty-eight hours after injury, burn patients are taken off the modified Haldane's solution as diuresis begins to occur and sodium is mobilized. In severe cases we begin continuous forced protein feeding by a continuous drip into the stomach with a small plastic intranasal tube. It has been emphasized by Ravdin[7] that the intravenous feeding route is far from satisfactory. We feel that probably of all solutions given by vein amino acids produce the most local irritation. Because these acids are excreted rapidly through the kidneys, they compare poorly with protein feedings given by mouth.

Our present formula supplies 150 Gm. of protein, 300 Gm. of carbohydrate, and 60 Gm. of fat per 1,000 cc. It is composed of milk, eggs, Dextri-

FIG. 1. A photograph of a patient with severe burns receiving forced protein feeding through a small plastic intranasal catheter. In the background is shown the pump apparatus; the formula is kept cool in the thermos.

Maltose, and Protolysate. The protein mixture is forced by a small pump through the plastic catheter into the stomach at the rate of about .7 to 2 cc. a minute. Figure 1 shows the pump and apparatus which has been devised to enable the patient to re-

ceive adequate protein therapy. The thermos bottle serves to keep the feeding cool, thus preventing decomposition and lessening the tendency to diarrhea, which was one of the early problems.

Forced feeding is continued until second degree burns are largely healed, the burned area of the body has an initial covering with skin grafts, and the patient is eating well by himself. As much of the formula is given as can be tolerated. An average of perhaps 500 to 1,500 cc. (1,250 to 3,250 calories) per day is given in children. In addition to the protein formula, solid foods from the house diet which can be ingested without discomfort while the tube is in place are fed to these patients. Total protein determination remains slightly below normal in spite of the greatly increased protein and caloric intake during a twenty-four hour period.

Since June, 1950, we have treated 130 consecutive burn cases (48 in children) by the open-air method. Several have had burns involving more than 40 per cent of the body surface with what appeared to be deep second and third degree burns. All of the patients, to put them to the extreme clinical test, have been cared for on the open ward or in their rooms without any attempt at sterile technique. Doctors and attendants have not worn masks, gowns, or gloves. We have not washed the burned surfaces except to remove gross dirt with liquid detergent solution (Dreft) and flush it with warm saline solution on admission of the patient. It does not matter whether or not there is removal of loose shreds of skin or opening of vesicles. Considerable time is saved if no debridement is done.

Following mild sedation if necessary, tetanus antitoxin or toxoid, and transfusion typing, the patient is placed on sterile sheets with the burned areas completely exposed to air at room temperature. The humidity in Galveston is often close to 100 per cent but by forty-eight to seventy-two hours a crust is fairly well formed. In children, extremities are elevated with mechanical devices if necessary. When the hands are involved with very deep burns, we like to employ pressure dressing for the first day or so in order to immobilize the fingers in position of function and to impress upon the patient thereafter that they must remain in flexion throughout treatment. Sheets are usually suspended over the burned areas using a clothesline made of bandage strips. Care must be taken, however, that the bedclothes do not touch any of the burned portions of the body and that overheating with blankets does not take place.

As soon as the patient is declared ambulatory for bathroom privileges and meals, early diversional therapy is encouraged if he has no lower extremity involvement. Every member of the staff tries to see all patients at least once daily to encourage high morale. Burns of only second degree usually heal between the eighth and sixteenth day with the crust falling off spontaneously, or it may be picked off with forceps. If the burn is of full-thickness depth, the crust is tightly adherent and contracted in appearance. When second degree burns are healed, the patient is ready for grafting of the third degree areas.

Before the patient is ready for grafting, a few areas of liquefaction may appear in cracks or beneath the slough at the edges of the crust. If so, the separated burned tissue is excised with scissors and the raw edges are covered with a single layer of fine mesh gauze. We have found no advantage to be gained with any particular drug, penicillin solution, or water soluble neomycin cream. The important point is to remove the slough mechanically from the underlying tissue and to graft as early as possible before infection becomes a problem.

Patients on open-air therapy usually require only small amounts of blood after the initial stage of shock is passed. Many persons with extensive burns do well on about one-third the number of transfusions given under the other regimens of therapy. The patients are more comfortable and relatively free of pain after the first few days. Antibiotics, usually 300,000 units of penicillin per day, are given for the first five days. The patients have a remission of fever about the end of the first week and do not show a septic temperature curve after this time. There is absence also of the unpleasant burn odor which was a factor previously in lowering morale.

We have noted that patients under open-air therapy are able to take by tube and voluntarily by mouth more fluid, which results in better nutrition and a minimum loss of muscle and weight volume. Early ambulation is also a factor in preventing weight loss. Because of the elimination of infection, hospitalization is shortened. The patients are kept in the hospital now for an average of three weeks for burns of less than 20 per cent extent and six weeks in those of more than 20 per cent. Patients on open-air therapy require fewer skin grafts than we ordinarily would have expected from their initial appearance.

CONCLUSIONS

It is undoubtedly true that infection added to maceration and increased moist heat engendered by occlusive dressings must convert deep second degree burns into full-thickness skin loss, as Sneve pointed out forty-five years ago. However, patients must be given open-air treatment and not open-air neglect.

A more complete knowledge of disturbed body physiology following specific thermal trauma has en-

abled us to give our patients better treatment. They are more comfortable and painful dressing procedures are eliminated. The septic phase is kept to a minimum or eliminated. There is decreased expense to the patient and to the hospital, and the period of hospitalization is reduced.

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ABSTRACT OF DISCUSSION

DR. R. L. MOORE, Dallas: The management of severe burns is certainly one of the most difficult of medical problems. The biggest advance in the handling of burns has been the recognition of the fundamental importance of blood, fluid, electrolytes, and food substance in recovery. When these aspects are properly handled, the mortality is appreciably decreased. It is doubtful that the type of local treatment of the burned area has had so much to do with mortality. However, the local treatment is of utmost importance as far as morbidity, ease of handling, and final results are concerned.

Dr. Garbade and Dr. Blocker are to be commended on their contribution toward better handling of the local treatment. At Parkland Hospital, Dallas, Dr. Moyer has been using the open-air treatment advocated by Dr. Blocker for the past year and is convinced that it is the method of choice. Among more than 60 patients treated by Dr. Moyer, about 30 were children. The same advantages that Dr. Garbade has enumerated were found in the group of cases at Parkland Hospital.

We have been impressed particularly by the fact that the child as a whole can be watched and cared for better. Also, sudden changes in condition can be discovered earlier and handled more easily. We are sure that the open-air treatment represents a true advance in the handling of severe burns.

CASE REPORTS

LETTERER-SIWE'S DISEASE

Report of Case in an Infant

GEORGE T. O'BYRNE, M.D., Corpus Christi, Texas

IN 1924 Letterer[5] described a case of aleukemic reticulo-endothelial hyperplasia in a child. In 1933 Siwe[9] reported a case in a 16 month old infant and grouped the previously reported cases with his own into a well defined clinicopathologic entity. In 1936, Abt and Deneholz[1] reviewed the literature and added a case of their own, and since then the condition has generally been known as Letterer-Siwe's disease.

According to Siwe's criteria, the condition is characterized by the following distinctive features:[1]

1. There is marked splenomegaly with moderate to considerable enlargement of the liver.
2. A hemorrhagic tendency, chiefly manifested as petechiae or purpura, is noted.
3. There is a generalized enlargement of the lymph glands, the glands being discrete and not tender.
4. Localized tumors over the bones may be present. The osseous involvement, however, may be recognized only by the aid of roentgenograms or at autopsy.
5. The blood picture is characterized by a secondary anemia of a progressive nonregenerative type. The leukocyte count is normal or somewhat diminished and the differential count is within normal range; in none of the cases was there a marked increase in the percentage of mononuclear leukocytes. The number of platelets in those instances in which they were reported was not consistently diminished.
6. Splenic puncture may reveal an increased number of nonlipoid-containing macrophages.
7. The disease is neither hereditary nor familial and occurs exclusively in infants. The onset is acute and unrelated to infection. The course is gradually downhill and the duration is from a few weeks to a few years. The etiology is unknown.
8. Pathologic changes are characterized by a generalized hyperplasia of the macrophages in various organs. These cells are nonlipoid storing. Characteristic cells are large, round, or polygonal mononuclear

From the Department of Pediatrics, Memorial Hospital
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cells. The cytoplasm is pale staining and the nucleus is usually chromatic, often eccentrically situated, in some instances vesicular in shape and in others more oval or spindle shaped.

Although less than 50 cases of Letterer-Siwe's disease have been reported, several observers are of the opinion that the disease is not as rare as the number of reported cases would indicate. Inasmuch as no case has been reported before the Section on Pediatrics, the following case is presented.

CASE REPORT

M. C., a 9 month old infant, was admitted to the Memorial Hospital on November 23, 1949, with the chief complaint a rash on the scalp and body, fever, and enlarged glands.

Past History.—Pregnancy and delivery had been normal. The baby's birth weight was 7 pounds 13 ounces. He had received a mixed vitamin preparation since birth. An evaporated milk formula, cereal, vegetables, fruits, and meats were taken well until about the age of 7 months. The developmental history was considered normal. The mother, father, and two other siblings were living and well. There was no history of familial or hereditary diseases.

Present Illness.—A rash had been present on the scalp since the age of 3 weeks. About six weeks prior to admission, a rash was noticed in the axillary areas; it had gradually spread to the face and trunk.

When the baby was 3 weeks old, the mother noticed enlargement of the cervical glands, which she thought persisted for about a month. At the age of about 5 months, there was a recurrence of the cervical adenopathy and the inguinal and axillary glands became enlarged; this enlargement persisted.

There had been a continuous purulent discharge from both ears since the age of 6 months.

The child had had intermittent fever for the six weeks prior to admission; however, the mother did not consider him acutely ill until about a week prior to admission, at which time his temperature became higher and he refused food.

Physical examination revealed an acutely ill, pale, lethargic, male infant. The temperature was 104 F. and the pulse 160. The scalp was covered with oozing crusted lesions, varying from 2 to 4 mm. in diameter. There was a bilateral purulent otitis media. The tonsils were large, inflamed, and streaked. The eye grounds and reflexes were normal. The heart was normal to percussion and auscultation. Auscultation of the chest revealed fine and medium rales scattered throughout both lung fields. There was marked enlargement of the cervical, axillary, and inguinal lymph glands. These nodes, varying from 3 to 5 cm. in diameter, were discrete and hard but apparently not tender. The abdomen was distended; the liver, which was enlarged and tender, was palpated three fingers below the costal margin. The spleen, which was firm, extended to the umbilicus.

The skin lesions consisted of discrete, slightly raised purpuric papules, some of which were petechial. Those on the scalp suggested a severe seborrheic dermatitis with purpura and there was a tendency toward confluence. On the trunk, however, the lesions for the most part were circumscribed and the skin between them appeared normal.

Laboratory Data.—The hemoglobin was 5.9 Gm. The red blood cells numbered 3,290,000 and the white blood cells 10,600 per cubic millimeter, with a differential count as follows: polymorphonuclear leukocytes 77 per cent, juvenile cells 2 per cent, and eosinophils 4 per cent. The clotting time was 2.5 minutes; the bleeding time 2 minutes. The blood platelet count was 164,500; the sedimentation rate 23 mm. in one hour. The prothrombin time was 95 per cent of normal. Serum cholesterol was 114 mg., serum calcium 10 mg., and serum phosphorus 4 mg. Tuberculin and histoplasmin skin tests and agglutination tests were negative. Myelograms of sternal, tibial, and ilial marrow were normal. Cultures of blood and bone marrow were negative. Culture of aural discharge was positive for Bacillus pyocyaneus.

A roentgenogram of the skull showed one rounded area of rarefaction overlying the posterior portion of the right parietal bone. One of the chest revealed a dense miliary infiltration throughout both lungs. Those of the long bones, pelvis, wrists, and ankles were negative.

An inguinal lymph node was removed and the following microscopic report was made by Dr. John F. Pilcher, Corpus Christi: The sections showed a lymph node in which the architecture was almost completely obscured because of a tremendous overgrowth of rather large cells, apparently of the reticular type. Extreme masses of these cells filled the node almost completely. Rare polymorphonuclear leukocytes, plasma cells, and eosinophils were scattered through the tissue. The hyperplastic cells had a large amount of cytoplasm which was not vacuolated. Mitoses were rather numerous. There were a number of large multinucleated cells with the same type of nuclei and cytoplasm as the surrounding cells. This picture was compatible with a diagnosis of Letterer-Siwe's disease, although it appeared more like a reticular blastoma.

Microscopic examination of material obtained from a splenic puncture was reported on as follows: There were a great number of rather large round and polyhedral cells in clumps and individually with a large amount of rather pale cytoplasm. Some of the cells were multinuclear. These cells were similar to those seen throughout the lymph node removed at biopsy of the same patient. The cells showed no indication of fatty material of any kind. The cytoplasm showed no vacuoles.

A tentative diagnosis of reticulo-endotheliosis of the spleen was made.

Treatment consisted of hydration, transfusions, and the administration of penicillin, streptomycin, aureomycin, and chloramphenicol. There was no improvement, and after a gradual downhill course the child died December 16.

Autopsy was performed by Dr. Pilcher about eight hours after death.

Gross examination revealed the following:

Liver: The margin of the liver, which weighed 504 Gm., extended downward almost to the umbilicus. The organ was yellowish-tan and seemed softer than normal.

Spleen: Weighing 305 Gm., the spleen was rather firm and deep reddish-purple. It extended as far as the ileum on the left side. The splenic substance was firmer than usual and consisted of a homogeneous mass in which the splenic follicles were not distinguishable.

Thymus: The thymus gland, which weighed 9 Gm., was slightly nodular and the cut surface revealed numerous yellowish nodules about 3 mm. in diameter.

Lungs: The lungs were voluminous and presented a mottled irregular serous surface. There were greyish areas which stood out from the surrounding reddish surface. Numerous air-filled petechial blebs beneath the pleura measured up to 8 mm. in diameter. The lungs on palpation were crepitant but had a lumpy feeling. On section the cut surface varied from grey to red, and numerous air-filled blebs up to 6 and 8 mm. in size were scattered throughout the pulmonary sub-

stance. There were no definite areas of consolidation but the consistency of the lung substance was variable throughout.

Skull: On the right side of the skull about 2 inches above and slightly behind the right ear was a round soft area 9 mm. in diameter which extended through both plates and was a little thicker than the skull.

Gastrointestinal Tract: The stomach, esophagus, and small and large intestines were grossly normal throughout. The mesenteric nodes of both the small and large intestines were enlarged up to 6 to 8 mm. and were deep red.

The heart, pancreas, kidneys, and adrenal glands appeared normal. The brain was not examined.

Microscopic examination of sections from the various organs was as follows:

Skin: Some hemorrhage appeared just beneath the epithelium. In the upper corium were noted collections of large histiocytes, some of which contained blood pigment. These were arranged in groups about the blood vessels and beneath the epithelium. In some of these rather large cells the cytoplasm was vacuolated. The cytoplasm tended to take a rather definite eosinophilic stain. The nuclei were rather large and irregular.

Heart: An increase of cells in the interstitial tissues of the heart was noted. The myocardial fibers were swollen. The cross striations were indistinct and the longitudinal striations rather marked. There were vacuoles in some of the myocardial fibers.

Lungs: Marked dilatation of all of the blood vessels in the lungs was noted. Many of the small bronchi and bronchioles were filled with cells, including lymphocytes, polymorphonuclear leukocytes, and many large histiocytic type of cells. In some areas there was a marked infiltration of histiocytic type of cells in the alveoli and alveolar walls; thus, there was an irregular consolidation of the lungs in these areas,

FIG. 1. Photographs depicting various aspects of Letterer-Siwe's disease. a. Cervical and axillary adenopathy may be noted. b. A close up shows the appearance of the rash. c. At autopsy, extreme splenomegaly and hepatomegaly were evident. d. A section of ileum reveals marked enlargement of the mesenteric nodes.

the principal cell involved being a reticular histiocytic type. Some of these cells were large and had two or three nuclei. Rather large blebs in the lungs apparently resulted from the breakdown of alveolar walls. Other sections of the lungs showed many alveoli which were clear of exudate, but in these areas the walls of the alveoli were infiltrated with the large mononuclear type of cells.

Spleen: The usual splenic architecture was almost completely obliterated by an overgrowth of large mononuclear reticular type of cells. The tissue was completely crowded with these cells so that it was difficult to distinguish the sinusoids and structure of the spleen.

Liver: Noticeable vacuolization of the liver cells, especially at the periphery of the lobules, was evident. About the portal spaces there was considerable loose fibrous tissue which was heavily infiltrated with reticular type of mononuclear cells. These were the same type of cells that were seen generally in the other organs.

Pancreas: Sections of the pancreas were not remarkable.

Adrenal Glands: No infiltration of the cells seen elsewhere was evident in the adrenal gland. The cells of the medullary portion were normal in appearance. In some areas of the cortex there was a moderate vacuolization of the cells in the fascicular zones. Otherwise, the adrenal glands were not remarkable.

Kidneys: Some dilatation of the tubules in the cortex of the kidneys was seen. The epithelium of the convoluted tubules was ragged and granular. The glomeruli were not remarkable. There was no abnormal cellular infiltration in the kidney tissue.

Gastrointestinal Tract: Sections of the small and large intestines at various levels and of the appendix showed a replacement of the lymphoid tissue by an overgrowth of large reticular cells, such as was seen throughout all the other tissues.

Testicle: The testicle seemed normal for an infant of this age.

Thymus: There was almost complete replacement of the tissue of the thymus by an overgrowth of large histiocytes.

Lymph Nodes: Replacement of the lymphoid tissue by reticular type cells was noted in sections of the lymph nodes from various locations.

Spine: Some excess of reticular type of cells was apparent in the marrow. The marrow structure, however, was not destroyed by this excessive number of reticular type cells. In the rib marrow were noted some small collections of these reticular cells. In sections of the soft area in the skull the bone had been replaced entirely by a large mass of tissue composed almost entirely of large reticular type cells. There was some vascular fibrous stroma through this area.

In recapitulation, large collections of large reticular type cells, some of which are vacuolated, were noted in sections of the skull, the skin, the thymus, lymph nodes, lungs, spleen, lymphoid structures of the gastrointestinal tract, and liver. The myocardium, pancreas, adrenal glands, and kidneys did not show infiltration of this type of tissue.

Diagnoses were as follows: (1) acute degeneration of the myocardium, (2) fatty degeneration of the liver, (3) toxic nephrosis, (4) bullous emphysema, and (5) generalized nonlipoid reticulo-endotheliosis (Letterer-Siwe's disease).

COMMENT

The reticulo-endothelial system, because of its complexity and because of the almost complete inability to experimentally reproduce its diseases, has been termed the underworld of the body. Various classifications of diseases of this system include primary idiopathic xanthomatosis, reticulo-endotheliosis, systemic reticulo-endothelial granuloma,[12] reticulo-granuloma,[8] histiocytic granuloma,[4] and eosinophilic xanthomatous granuloma.[11]

In recent years the concept that Letterer-Siwe's disease, Schüller-Christian's disease, and eosinophilic granuloma of bone are manifestations of the same disease[2, 3, 6] has been advanced, differences in the clinical manifestation being due to the age of the patient, the intensity of involvement of the reticulo-endothelial system, and the degree of disturbance in the lipoid metabolism.

Transition forms between eosinophilic granuloma of the bone and Hand-Schüller-Christian's disease have been reported by Love and Fashena[7] and between Letterer-Siwe's disease and Schüller-Christian's disease by Wallgren.[12] This premise is accepted by several investigators but is rejected in a comprehensive review by Siwe,[10] who wrote, "All three forms are diseases of the reticulo-endothelial system. Until more is known about them we must assume the existence of a family relationship, but more than that, it seems to me, has neither been proved nor even plausibly postulated."

Thannhauser, while agreeing that Letterer-Siwe's disease is the first phase of the Schüller-Christian syndrome, stated that "The designation of acute reticulo-endotheliosis (Letterer-Siwe's disease), should be maintained for such cases where the reticulo-endothelial phase is terminated in its development by a most rapid and fatal course of the disease and anatomical as well as chemical examination does not show cholesterol accumulation in the involved cells."

Clinically, the separation of these diseases is important from the standpoint of prognosis. Eosinophilic granuloma of bone is a benign disease which responds well either to surgery or to roentgenotherapy. Hand-Schüller-Christian disease is a general lipoid reticulosis and is characterized by defects in the bones of the skull, exophthalmos, and diabetes insipidus. In addition, skin lesions resembling a seborrheic dermatitis are common, and involvement of other bones and organs is not unusual. Children are affected as a rule but adults are not immune. The duration is from a few to many years. Remissions may occur and there is no specific therapy.

In contrast, Letterer-Siwe's disease, a nonlipoid reticulo-endotheliosis, is a disease of infants with a relatively short duration and a hopeless prognosis.

SUMMARY

A case of nonlipoid reticulo-endotheliosis, Letterer-Siwe's disease, is presented. This case fulfills the criteria outlined by Siwe. The prevalent concept that this disease appears to be the acute phase of Schüller-Christian's syndrome is commented upon.

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ABSTRACT OF DISCUSSION

DR. R. E. LEATON, Houston: The following characteristics classify the case reported by Dr. O'Byrne as Letterer-Siwe's disease: (1) generalized hemorrhagic rash, (2) hepatosplenomegaly, (3) generalized lymphadenopathy, (4) fever, (5) anemia, (6) lesion of the bone, (7) fatal termination, and (8) biopsy and autopsy findings showing the entire reticulo-endothelial system to be overrun with accumulations of the typical large, reticular macrophage cells.

The diagnosis of Letterer-Siwe's disease is facilitated by lymph node or splenic biopsy, repeated aspirations of the bone marrow, and survey roentgenograms of the bones. An eczematoid eruption which consistently resists therapy and which has a generalized distribution should lead one to suspect Letterer-Siwe's disease.

The early differentiation from Hand-Schüller-Christian disease may be difficult since the clinical observations mentioned above are common to both conditions. In Letterer-Siwe's disease the onset is usually more acute, the course shorter, and the outcome almost invariably fatal. The skin lesions tend to be more hemorrhagic in Letterer-Siwe's disease; more seborrheic in Schüller-Christian. Lesions of the bone in Letterer-Siwe's disease usually are noted in the long bones or ribs, whereas in Hand-Schüller-Christian disease, they are observed more often in the skull. The accumulation of lipid is typical in Schüller-Christian disease but practically never occurs in Letterer-Siwe's disease except in instances in which the course of the disease is prolonged to a year or more.

The cause of Letterer-Siwe's disease is unknown. There is no satisfactory treatment.

EXTRAGENITAL GRANULOMA VENEREUM

Report of Case Without Associated Pudendal Lesion

DONALD S. MORRIS, M.D., Temple, Texas, and G. E. BENNACK, M.D., Raymondville, Texas

EXTRAGENITAL granuloma venereum is considered uncommon in the Negro and very unusual in the white race. The extragenital cases reported usually have followed or been associated with pudendal lesions. Since any cutaneous and many mucous membrane areas may become involved, extragenital granuloma venereum is usually considered when pudendal lesions are present. However, such a diagnosis is rarely entertained in the absence of pudendal lesions. Because extragenital lesions may simulate carcinoma in their gross and microscopic appearance, many may be therapeutically eradicated without the correct diagnosis being established. Wider familiarity with the histologic characteristics of Donovan granuloma should result in the more frequent diagnosis of more solely extragenital lesions. This unusual case is reported with the hope of stimulating an increased awareness of extragenital granuloma venereum.

Read before the Section on Clinical Pathology, Texas Medical Association, Annual Session, Galveston, May 1, 1951.

In 1882 MacLeod[13] described as an entity "serpiginous or lupoid ulceration of the genitals" in which ulcerations spread to involve the groins, thighs, and buttocks.

The bodies originally described in 1905 by Donovan[4], were first found in scrapings from an oral lesion. An associated pudendal lesion was not described. In this report Donovan also described the bodies in 5 cases of "ulcerating granuloma of the pudenda." It is especially interesting that Donovan bodies were first found in a case of extragenital granuloma venereum, probably without associated pudendal lesions.

Hanna and Pratt-Thomas[11] reported 6 extragenital cases preceded by pudendal lesions. The lip was involved in 4 cases, the face in 1, and the mouth in 1.

D'Aunoy and von Haam[3] described 4 extragenital cases which were preceded in 3 instances by pudendal lesions. The areas affected were the mouth, lips, and gums in 1 case; the mouth and gums in another; the gluteal regions in a third; and the legs in

a fourth. Only the lesion in the gluteal region was regarded as the primary location of the lesion; in the other 3 cases pudendal lesions had been present before the onset of the extragenital lesions. The locations of the lesions in these cases illustrate the general susceptibility of the skin and mucous membranes to this infection.

Ferro and Richter[6] reported 3 cases with oral lesions occurring in patients occupying adjoining hospital beds. One patient had a concurrent pudendal lesion; the others had had previous pudendal lesions.

Several single case reports describing involvement of the lip[10], lip and mouth[5], face and mouth[18], gum[16], mouth and larynx[12], eyelid[19], and neck[8] have appeared. All of these patients had either associated or previous pudendal lesions and, with one exception, were Negroes. Reed[17] reported a case in which the lesions were confined to the buttocks of a white man.

CASE REPORT

The patient was a 64 year old white man who was first seen January 16, 1947, with a lesion of the skin of the right cheek. This was diagnosed clinically as an inflammatory lesion and was cauterized; prompt healing followed.

On January 14, 1950, the patient returned with a painless lesion of the right side of the lower lip which had been present for two weeks. It was treated by cauterization. On January 30 the lesion was unimproved and measured 5 mm. in diameter. An excrescent mass of tissue arose from the vermilion border and adjacent area of mucous membrane of the lower lip. There was superficial ulceration of the central zone of the nodule. A narrow peripheral zone retained its epithelium, which was irregular along its inner margin as a result of piling over of granulation tissue.

The entire lesion was excised for biopsy and the wound was closed with sutures. Prompt healing followed. There has been no recurrence of the lesion in the past year and the patient has received no other treatment during this period. He has never had a pudendal lesion.

PATHOLOGIC CHARACTERISTICS

D'Aunoy and von Haam[3] described five stages in the development of granuloma venereum, namely: (1) nodular lesion, (2) serpiginous ulcer, (3) deep ulcer. (4) hypertrophic lesion, and (5) cicatricial lesion. In the early nodular stage they noted acanthosis and a dermal infiltrate of polymorphonuclear leukocytes, plasma cells, and mononuclear cells laden with Donovan bodies. Subsequently, granulation tissue breaks through the epidermis producing an ulcer.

The histologic picture in our case was characteristic

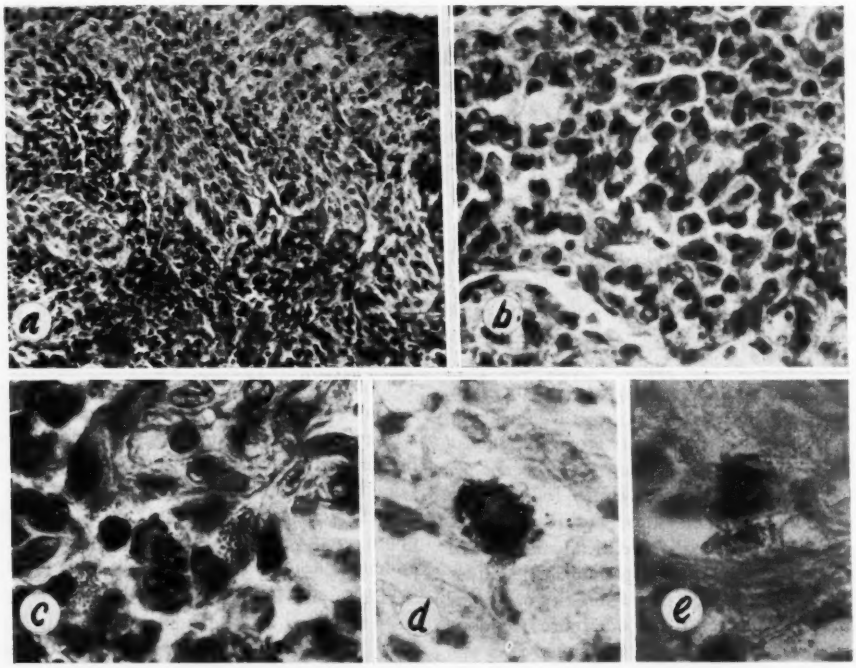

FIG. 1. a. Epithelial hyperplasia which may simulate carcinoma. Note the dense dermal infiltrate (hematoxylin and eosin, x 200).
b. Dermal infiltrate composed of plasma cells, scattered polymorphonuclear leukocytes, and histiocytes (hematoxylin and eosin, x 500).
c. Histiocytes laden with Donovan bodies which are stained unusually well in one cell. The poorly stained organisms, which are present in two other histiocytes, usually are observed when this stain is used (Harris' hematoxylin and eosin, x 1,000).
d. A histiocyte laden with Donovan bodies. Note the cytoplasmic cysts with Donovan bodies grouped around their periphery. The nucleus is out of focus. A plastin mass occupies the central zone of the cell (Giemsa's stain, x 1,000).
e. A histiocyte densely laden with Donovan bodies (Giemsa's stain, x 1,000).

of the ulcer stage. The epithelial hyperplasia with elongation of the rete pegs at the periphery of the area of ulceration may simulate carcinoma (fig. 1a). The granulation tissue of the ulcer bed is densely infiltrated with plasma cells (fig. 1b). The massiveness of this infiltrate is an outstanding characteristic of granuloma venereum. At a higher magnification intracellular Donovan bodies are noted (fig. 1c). A few scattered as well as small collections of polymorphonuclear leukocytes are seen. There is a characteristic paucity of lymphocytes.

The pathognomonic cells are most numerous in the superficial levels of the granulation tissue, especially near the margins of the ulcer. These large mononuclear cells usually contain intracytoplasmic cysts which have the small Donovan bodies grouped around their periphery (fig. 1d and e). Multiple cysts in the same cell are demonstrated by varying the focus. Some phagocytic cells contain plastin masses; the nuclei of these cells are often eccentrically located.

The Donovan bodies are round, oval, or "safety-pin" shaped. They stain well with Giemsa stain (fig. 1d and e). They stain indistinctly with Harris' hematoxylin (fig. 1c), but Pund and Greenblatt[14] obtained well stained Donovan bodies with Delafield's hematoxylin. These bodies appear smaller and are more difficult to recognize in tissue sections than in smears.

The ulcer subsequently enlarges with the formation of irregular, projecting nodules of granulation tissue which is characteristic of the hypertrophic stage. Finally, progressing fibrosis and some healing produce the keloid-like picture of the cicatricial stage.

Pund, Greenblatt, and Huie[15] have emphasized the importance of the biopsy in the diagnosis of venereal diseases. The histologic diagnosis of granuloma venereum, especially the extragenital lesions, depends on associating the massive plasma cell infiltrate with this entity and carefully searching for the pathognomonic cell. In routine sections stained with hematoxylin and eosin the Donovan bodies often stain poorly and may escape detection. Special stains may be necessary to demonstrate them clearly.

ETIOLOGY

The Donovan body generally has been accepted as the etiologic agent in granuloma venereum. Greenblatt, Dienst, Pund, and Torpin[9] produced the classic picture of granuloma venereum by injecting Donovan bodies into the inguinal region of human volunteers. In these experiments Donovan bodies, largely free of contaminants, were obtained by aspirating the nodular lesion (pseudobudo) of a Negro with granuloma venereum.

Many attempts to culture the organism on various artificial media have been unsuccessful.

Recent writers apparently have overlooked the first successful cultivation in 1926 of Donovan bodies by Goldzieher and Peck[7], who obtained successful culture of aerobic, gram-negative, nonmotile coccobacilli or rods with bipolar structures from 5 of 7 cases of granuloma venereum. Primary culture on Sabouraud's maltose media was difficult but further cultures were easily accomplished. The etiologic role of the Donovan body was substantiated by immunologic studies. The serum of patients with granuloma venereum agglutinated emulsions of this organism and fixed complement when combined with antigen prepared from the organism. The serum of controls gave negative results. Skin tests using an antigen prepared from this organism were also positive in patients with granuloma venereum but negative in controls. Goldzieher and Peck named this organism the granuloma bacillus.

More recently Anderson[1] and Anderson, De Monbreun, and Goodpasture[2] have also cultured the granuloma bacillus and demonstrated its etiologic role in granuloma venereum by similar immunologic reactions. They preferred to name the organism Donovania granulomatis. Apparently they were not cognizant of the earlier work of Goldzieher and Peck.

Goldzieher and Peck[7] described spherical, intracellular, and extracellular plastin masses which are apparently produced by the organisms or by the cell. Excretion of these masses by the cell or their solution during the preparation of paraffin sections results in the characteristic cytoplasmic vacuoles of the cells harboring Donovan bodies. These masses may represent conglomerated capsular material or lipoids produced by the organisms. Further investigation of this problem is indicated.

SUMMARY

An unusual case of extragenital granuloma venereum occurring in a white man without associated or previous pudendal lesions is reported. The pathologic characteristics and the etiology of this entity are briefly discussed. An explanation of the nature of the cytoplasmic vacuoles in the phagocytes harboring Donovan bodies is suggested.

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Dr. Morris, Department of Pathology, Scott and White Clinic, Temple.

Dr. Bennack, Baden-Bennack-Spence Clinic, Raymondville.

ABSTRACT OF DISCUSSION

DR. PAUL BRINDLEY, Galveston: Although Pariser and Beerman stated that extragenital lesions occur in about 6 per cent of the cases of granuloma venereum, such lesions are usually secondary to a primary genital involvement. I have never seen a case of primary extragenital infection in this disease but have seen 2 cases with fairly widespread extragenital lesions, and in one of these the buccal area was involved. In both cases the disease had started with primary genital lesions.

One of my patients with granuloma venereum reported with cervical involvement and was considered clinically to have a cervical carcinoma. Four biopsies for malignancy were negative and only upon reexamination of the material was the true nature of the disease demonstrated. In 1948 Speiser reported 4 similar cases of granuloma venereum of the cervix diagnosed clinically as carcinoma. He pointed out that in patients suffering from clinically suspected carcinoma of the cervix but showing only inflammatory disease on biopsy, one should look for Donovan bodies. Since in the case presented by Drs. Morris and Bennack the lesion also was suspected clinically of being carcinoma, perhaps, as they have pointed out, physicians should look more carefully for the characteristic cells and Donovan bodies in biopsy tissues, irrespective of the site from which they are taken.

NEWS

COMING MEETINGS AND CLINICS

Texas Medical Association, Dallas, May 4-7, 1952. Dr. Allen T. Stewart, Lubbock, Pres.; N. C. Forrester, 700 Guadalupe St., Austin, Acting Executive Secy.

American Medical Association, Chicago, June 9-13, 1952. Dr. John W. Cline, San Francisco, Calif., Pres.; Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secy.

NATIONAL AND REGIONAL

American Academy of Allergy. Dr. Walter S. Burrage, Milwaukee, Pres.; Mr. James O. Kelley, 208 E. Wisconsin Ave., Milwaukee 2, Executive Secy.

American Academy of Dermatology and Syphilology. Dr. Donald M. Pillsbury, Philadelphia, Pres.; Dr. John E. Rauschkolb, 25 Prospect Ave., N. W., Cleveland 15, Secy.

American Academy of General Practice, Atlantic City, March 24-27, 1952. Dr. Jason P. Sanders, Shreveport, La., Pres.; Mr. Mac F. Cahal, 406 W. 34th St., Kansas City 2, Executive Secy.

American Academy of Neurological Surgery, New York, October, 1952. Dr. Henry G. Schwartz, St. Louis, Pres.; Dr. Theodore B. Rasmussen, 950 E. 59th St., Chicago 37, Secy.

American Academy of Obstetrics and Gynecology, Business Meeting, Cincinnati, March 31-April 4, 1952. Dr. Woodard D. Beacham, New Orleans, Pres.; Dr. Ralph A. Reis, 116 S. Michigan Ave., Chicago 3, Secy.

American Academy of Ophthalmology and Otolaryngology, Chicago, Oct. 12-17, 1952. Dr. Frederick C. Cordes, San Francisco, Pres.; Dr. W. L. Benedict, 100 First Ave. Bldg., Rochester, Minn., Secy.

American Academy of Pediatrics, Chicago, Oct. 20-23, 1952. Dr. W. W. Quillian, Miami, Pres.; Dr. E. H. Christopherson, 636 Church St., Evanston, Ill., Secy.

American Association for Thoracic Surgery, Dallas, May 8-10, 1952. Dr. Frank B. Berry, New York, Pres.; Dr. Paul C. Samson, 2938 McClure St., Oakland 9, Calif., Secy.

American Association of Genito-Urinary Surgeons. Dr. Charles C. Higgins, Cleveland, Pres.; Dr. Norris J. Heckel, 122 S. Michigan Ave., Chicago 3, Secy.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons. Dr. Leroy A. Calkins, Kansas City, Kan., Pres.; Dr. William F. Mengert, 2211 Oak Lawn Ave., Dallas, Secy.

American Cancer Society. Dr. Guy Aud, Louisville, Ky., Pres.; Mr. M. R. Runyon, 47 Beaver St., New York, Exec. Vice-Pres.

American College of Allergists. Dr. John H. Mitchell, Columbus, Ohio, Pres.; Dr. Fred W. Wittich, 423 La Salle Medical Bldg., Minneapolis 2, Secy.

American College of Chest Physicians, Chicago, June 5-8, 1952. Dr. Chevalier L. Jackson, Philadelphia, Pres.; Mr. Murray Kornfeld, 112 E. Chestnut St., Chicago 11, Exec. Secy.

American College of Physicians, Cleveland, April 21-25, 1952; regional meeting, New Orleans, Feb. 15-16, 1952. Dr. Maurice C. Pincoffs, Baltimore, Pres.; Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Secy.

American College of Radiology, Chicago, Feb. 8, 1952. Dr. Robert R. Newell, San Francisco, Pres.; Mr. W. C. Stronach, 20 N. Wacker Drive, Chicago 6, Executive Secy.

American College of Surgeons, New York, Sept. 22-26, 1952. Dr. Alton Ochsner, New Orleans, Pres.; Dr. Michael L. Mason, 40 E. Erie St., Chicago 11, Secy.

American Congress of Physical Medicine, New York, Aug. 25-30, 1952. Dr. Robert L. Bennett, Warm Springs, Ga., Pres.; Dr. Frances Baker, 1 Tilton Ave., San Mateo, Calif., Secy.

American Dermatological Association, Colorado Springs, April 23-26, 1952. Dr. Edward A. Oliver, Chicago, Pres.; Dr. L. A. Brunsting, 102 2nd Ave., S. W., Rochester, Minn., Secy.

American Gastro-Enterological Association. Dr. T. Grier Miller, Philadelphia, Pres.; Dr. Dwight L. Wilbur, 655 Sutter St., San Francisco, Secy.

American Gynecological Society, Hot Springs, Va., May 12-14, 1952. Dr. Walter T. Dannreuther, New York, Pres.; Dr. John I. Brewer, 104 S. Michigan Ave., Chicago, Secy.

American Hospital Association, Philadelphia, 1952. Dr. Anthony J. J. Rourke, San Francisco, Pres.; Mr. George P. Bugbee, 18 E. Division St., Chicago, Executive Secy.

American Laryngological, Rhinological, and Otological Society, Toronto, May 20-22, 1952. Dr. C. S. Nash, 277 Alexander St., Rochester 7, N. Y., Pres. and Secy.

American Neurological Association. Dr. S. Bernard Wortis, New York, Pres.; Dr. H. Houston Merritt, 710 W. 168th St., New York 32, Secy.

American Ophthalmological Society, Hot Springs, Va., June 5-7, 1952. Dr. Lawrence T. Post, St. Louis, Pres.; Dr. M. C. Wheeler, 30 W. 59th St., New York 19, Secy.

American Orthopedic Association, London, June 30-July 4, 1952. Dr. Fremont Chandler, Chicago, Pres.; Dr. C. Leslie Mitchell, Henry Ford Hospital, Detroit 2, Secy.

American Pediatric Society. Dr. Hugh McCulloch, Chicago, Pres.; Dr. Aims McGuinness, 1740 Bainbridge St., Philadelphia 46, Secy.

American Proctologic Society, Milwaukee, June 4-7, 1952. Dr. R. A. Scarborough, San Francisco, Pres.; Dr. Stuart T. Ross, 131 Fulton Ave., Hempstead, N. Y., Secy.

American Psychiatric Association, Atlantic City, May 12-16, 1952. Dr. Leo H. Bartemeier, Detroit, Pres.; Dr. R. Finley Gayle, 6300 Three Chopt Rd., Richmond 21, Va., Secy.

American Public Health Association. Dr. Gaylord W. Anderson, Minneapolis, Pres.; Dr. R. M. Atwater, 1790 Broadway, New York 19, Exec. Secy.

American Society of Anesthesiologists, Philadelphia, Nov. 11-14, 1952. Dr. C. Walter Metz, Denver, Pres.; Dr. J. E. Remlinger, Jr., 188 W. Randolph St., Chicago, Secy.

American Society of Clinical Pathologists, Chicago, Oct. 13-18, 1952. Dr. Israel Davidsohn, Chicago, Pres.; Dr. Clyde G. Culbertson, Indiana University School of Medicine, Indianapolis, Secy.

American Surgical Association, White Sulphur Springs, April 16-18, 1952. Dr. Daniel C. Elkin, Atlanta, Pres.; Dr. Nathan Womack, University of Iowa, Iowa City, Secy.

American Urological Association, Atlantic City, June 23-26, 1952. Dr. Elmer Hess, Erie, Pa., Pres.; Dr. C. H. DeT. Shivers, 121 S. Illinois Ave., Atlantic City, N. J., Secy.

Association of American Physicians and Surgeons. Dr. Denton Kerr, Houston, Pres.; Mr. Harry E. Northam, 360 N. Michigan Ave., Chicago 1, Executive Secy.

International College of Surgeons, U. S. Chapter, Chicago, Sept. 2-5, 1952. Dr. H. W. Meyerding, Rochester, Minn., Pres.; Dr. Arnold S. Jackson, 1516 Lake Shore Drive, Chicago, Secy.

National Tuberculosis Association, Boston, May 26-30, 1952. Dr. Alton S. Pope, Boston, Pres.; Mr. Kemp D. Battle, 1790 Broadway, New York 19, Secy.

Radiological Society of North America. Dr. John S. Bouslog, Denver, Pres.; Dr. D. S. Childs, Medical Arts Bldg., Syracuse 2, N. Y., Secy.

Southern Medical Association, Miami, Nov. 10-13, 1952. Dr. R. J. Wilkinson, Huntington, W. Va., Pres.; Mr. C. P. Loranz, 1020 Empire Bldg., Birmingham, Ala., Secy.

Southern Psychiatric Association. Dr. R. Burke Suitt, Durham, N. C., Pres.; Dr. Newdigate M. Owensby, Medical Arts Bldg., Atlanta, Ga., Secy.

Southern Surgical Association. Dr. Frank C. Wilson, Birmingham, Ala., Pres.; Dr. John C. Burch, 2112 West End Ave., Nashville, Tenn., Secy.

Southwest Allergy Forum, Dallas, March, 1952. Dr. C. B. Shuey, Dallas, Pres.; Dr. James Holman, Medical Arts Bldg., Dallas, Secy.

Southwest Regional Cancer Conference. Secy., 209 Medical Arts Bldg., Fort Worth.

Southwestern Medical Association, Albuquerque, N. Mex., 1952. Dr. James Walsh, Douglas, Ariz., Pres.; Dr. W. W. Schuessler, 1415 First National Bank Bldg., El Paso, Secy.

Southwestern Surgical Congress. Dr. Leo J. Starry, Oklahoma City, Pres.; Dr. C. R. Rountree, 1227 Classen, Oklahoma City 3, Secy.

Tri-State Medical Assembly. Dr. W. S. Terry, Jefferson, Pres.; Dr. James Harris, Marshall, Secy.

United States-Mexico Border Public Health Association, Monterrey, March 17-19, 1952. Dr. Wilton L. Halverson, San Francisco, Pres.; Dr. J. Ellington, 314 U. S. Court House, El Paso, Secy.

STATE

Texas Academy of General Practice, San Antonio, Sept. 14-15, 1952. Dr. Van D. Goodall, Clifton, Pres.; Dr. B. H. Bayer, 104 E. Twentieth St., Houston, Secy.

Texas Academy of Internal Medicine, Galveston, Jan. 19-20, 1952. Dr. W. L. Marr, Galveston, Pres.; Dr. John S. Chapman, 3810 Swiss Ave., Dallas, Secy. Meetings restricted to members.

Texas Air-Medics Association. Dr. W. M. Pratt, Houston, Pres.; Dr. J. S. Minnett, 2512 Welborn, Dallas, Secy.

Texas Association of Obstetricians and Gynecologists, Austin, Feb. 8-9, 1952. Dr. S. Foster Moore, San Antonio, Pres.; Dr. Carey Hiett, 603 College Ave., Fort Worth, Secy.

Texas Chapter, American College of Chest Physicians, Dallas, May 5, 1952. Dr. J. E. Dailey, Houston, Pres.; Dr. Howard Smith, 3215 Exposition Blvd., Austin, Secy.

Texas Club of Internists. Dr. Ghent Graves, Houston, Pres.; Dr. Hatch W. Cummings, Jr., 203 Hermann Professional Bldg., Houston, Secy.

Texas Dermatological Society, Dallas, May 5, 1952. Dr. W. H. Connor, Houston, Pres.; Dr. C. H. McCuistion, Capital National Bank Bldg., Austin, Secy.

Texas Diabetes Association, Dallas, May 4, 1952. Dr. D. W. Carter, Jr., Dallas, Pres.; Dr. Ivan Mayfield, 1312 Main, Lubbock, Secy.

Texas Division, American Cancer Society. Mr. Frank C. Smith, Houston, Pres.; Mr. J. Louis Neff, 2307 Helena St., Houston 6, Executive Director.

Texas Heart Association, Dallas, May 5, 1952. Dr. Paul V. Ledbetter, Houston, Pres.; Miss Roberta Miller, 411 Reserve Loan Life Bldg., Dallas, Executive Secy.

Texas Hospital Association, Houston, May 20-22, 1952. Mrs. Ruby B. Gilbert, Temple, Pres.; Mrs. Ruth Barnhart, 2210 Main St., Dallas, Secy.

Texas Neuropsychiatric Association, Dallas, May 5, 1952. Dr. David Wade, Austin, Pres.; Dr. James Blair, 1708 Nix Professional Bldg., San Antonio, Secy.

Texas Orthopedic Association, Dallas, May 5, 1952. Dr. G. W. N. Eggers, Galveston, Pres.; Dr. Margaret Watkins, 3629 Fairmount St., Dallas, Secy.

Texas Pediatric Society, Dallas, Oct. 17-18, 1952. Dr. C. S. E. Touzel, Fort Worth, Pres.; Dr. M. C. Carlisle, 1410 Austin Ave., Waco, Secy.

Texas Public Health Association, Galveston, Feb. 17-20, 1952. Mr. Barnie A. Young, Austin, Pres.; Mr. Earle W. Sudderth, Dallas County Health Department, Court House, Dallas, Executive Secy.

Texas Radiological Society, Houston, Jan. 18-19, 1952. Dr. Curtis H. Burge, Houston, Pres.; Dr. R. P. O'Bannon, 650 Fifth Ave., Fort Worth, Secy.

Texas Railway and Traumatic Surgical Association, Dallas, May 5, 1952. Dr. A. W. Hartman, San Antonio, Pres.; Dr. W. F. Parsons, First National Bank Bldg., Fort Worth, Secy.

Texas Rheumatism Association, Galveston, January 18, 1952. Dr. G. W. N. Eggers, Galveston, Pres.; Dr. Robert H. Mitchell, 210 Medical Arts Bldg., Fort Worth, Secy.

Texas Society for Mental Health, Fort Worth, March 6-7, 1952. Dr. Warren T. Brown, Houston, Pres.; Mrs. Elizabeth F. Gardner, 2504 Jarratt Ave., Austin 21, Executive Secy.

Texas Society of Anesthesiologists, Dallas, May, 1952. Dr. L. F. Schuhmacher, Jr., Houston, Pres.; Dr. Werner Hoeflich, 2301 Reba, Houston, Secy.

Texas Society of Gastroenterologists and Proctologists, Dallas, May 5, 1952. Dr. Dolph L. Curb, Houston, Pres.; Dr. C. P. Hardwicke, 120 W. Seventh St., Austin.

Texas Society of Ophthalmology and Otolaryngology. Dr. Edward D. Dumas, San Antonio, Pres.; Dr. Lyle Hooker, 627 Esperson Bldg., Houston, Secy.

Texas Society of Pathologists, Dallas, Jan. 27, 1952. Dr. Stuart A. Wallace, Houston, Pres.; Dr. A. O. Severance, 205 Camden. San Antonio, Secy.

Texas Surgical Society, Houston, April 7-8, 1952. Dr. Robert M. Moore, Galveston, Pres.; Dr. Albert W. Hartman, 414 Navarro St., San Antonio 5, Secy.

Texas Tuberculosis Association, San Antonio, April 18-19, 1952. Dr. David McCullough, Kerrville, Pres.; Miss Pansy Nichols, 208 E. Ninth, Austin, Executive Secy.

Texas Urological Society, Dallas, Feb. 4, 1952. Dr. William H. Heck, San Antonio, Pres.; Dr. J. D. Mitchell, 1414 Medical Arts Bldg., Dallas, Secy.

DISTRICT

Second District Society, Odessa, March 11, 1952. Dr. A. H. Daniell, Brownfield, Pres.; Dr. C. B. Knox. Jr., Seagraves, Secy.

Third District Society, Plainview, April 8-9, 1952. Dr. Pauline Miller, Lubbock, Pres.; Dr. James T. Hall, 1302 Avenue Q, Lubbock, Secy.

Fourth District Society, San Angelo, 1952. Dr. B. A. Hallum, Brady, Pres.; Dr. Lloyd R. Hershberger, San Angelo, Secy.

Fifth and Sixth Districts Society, Corpus Christi, July 11-12, 1952. Dr. G. Turner Moller, Corpus Christi, Pres.; Dr. Y. C. Smith, 1813 S. Alameda Blvd., Corpus Christi, Secy.

Seventh District Society, Austin, Feb. 15, 1952. Dr. George W. Tipton, Austin, Pres.; Dr. D. B. Faubion, 1403 C Guadalupe, Austin, Secy.

Eighth District Medical Society. Dr. Leonard Johnson, El Campo, Pres.; Dr. Robert Casey, Texas City, Secy.

Ninth District Society, Navasota, March 19, 1952. Dr. F. Ray Black, Huntsville, Pres.; Dr. Lyman C. Blair, 1212 Rothwell, Houston, Secy.

Tenth District Medical Society, Lufkin, Feb. 13, 1952. Dr. T. A. Fears, Beaumont, Pres.; Dr. J. M. White, Jr., 3149 Proctor, Port Arthur, Secy.

Eleventh District Society, Athens. Dr. Griff T. Ross, Mount Enterprise, Pres.; Dr. Marlin T. Braswell, Henderson, Secy.
Twelfth District Society, Waco, Jan. 8, 1952. Dr. S. C. Richardson, Bryan, Pres.; Dr. J. C. Terrell, Stephenville, Secy.
Thirteenth District Society. Dr. W. B. Adamson, Abilene, Pres.; Dr. Robert D. Moreton, 815 Medical Arts Bldg., Fort Worth, Secy.
Fourteenth District Society, Greenville, June, 1952. Dr. N. L. Barker, Paris, Pres.; Dr. L. W. Johnston, 502 W. College St., Terrell, Secy.
Fifteenth District Society. Dr. C. B. Reed, Clarksville, Pres.; Dr. William E. Jones, 619 Main, Texarkana.

CLINICS

Dallas Southern Clinical Society, Dallas, March 17-20, 1952. Miss Betty Elmer, Medical Arts Bldg., Dallas 1, Executive Secy.
International Medical Assembly of Southwest Texas, San Antonio, Jan. 22-24, 1952. Dr. John J. Hinchey, P. O. Box 2445, San Antonio, Secy.
New Orleans Graduate Medical Assembly. Dr. Woodard D. Beacham, Room 105, 1430 Tulane Ave., New Orleans 12, Secy.
North Texas-Southern Oklahoma Fall Clinical Conference, Wichita Falls. Dr. W. L. Powers, Hamilton Bldg., Wichita Falls, Chairman.
Oklahoma City Clinical Society Conference, Oklahoma City. Mrs. Muriel R. Waller, 512 Medical Arts Bldg., Oklahoma City 2, Executive Secy.
Postgraduate Medical Assembly of South Texas, Houston, July 21-23, 1952. Dr. C. A. Dwyer, Secy., 229 Medical Arts Bldg., Houston.

UNIVERSITY OF TEXAS MEDICAL BRANCH

Lecturers during November and December included the following out-of-state speakers: Dr. Gudmund Magnussen, Copenhagen, originator of the Mental Hygiene Outpatient Clinic in that city; Patrick Romanell, Ph. D., professor of philosophy at Wells College, Aurora, N. Y.; Dr. Paul D. White, Boston cardiologist; Dr. Eduardo de Robertis, professor of physiology at the University of Montevideo; Dr. Andrea Rapond, president of the Swiss National Committee for Mental Hygiene; Dr. Walter J. Meek, professor emeritus of physiology, University of Wisconsin School of Medicine, Madison; Professor H. Monroe Fox, Cambridge, England; and Dr. Kenneth J. Franklin, professor of physiology, University of London.

Chauncey D. Leake, Ph. D., vice-president of the Medical Branch, gave a television broadcast on the scientific work of Leonardo da Vinci under the auspices of the Houston Natural History Museum on December 13.

Dr. C. C. Morris, associate professor of pediatrics, and Miss W. M. Verniaud, Ph. D., of the Department of Pediatrics, will direct the Child Development Center for Galveston County. The Center will be operated under the general direction of Dr. Arild E. Hansen, chairman of the Department of Pediatrics. Other cooperating agencies include the Galveston school system, the Hogg Foundation for Mental Hygiene, and the Galveston County Crippled Children's Society.

Dr. Charles A. Hooks, assistant professor of surgery, was awarded first prize at the meeting of the South Central Section of the American Urological Association for his scientific exhibit on renal arteriography.

Miss Elisabeth Runge, Librarian at the Medical Branch, Galveston, has been appointed associate professor of medical bibliography. The Medical Branch Library will be moved into a larger facility in the new Gail Borden Laboratory Building.

Paul Ewing, Ph. D., associate professor of pharmacology, resigned his position at the Medical Branch to accept a similar post at the University of Arkansas.

Dr. E. J. Poth attended the meeting in Honolulu recently of the Pan-Pacific Surgical Association.

A research scholarship in preventive medicine established by the late Dr. J. B. Kass, Detroit, who died November 2, 1951, and awarded annually to a medical student by a committee will be continued through his provision for an endowment.

A $2,000 medical research fellowship to a woman medical graduate or a woman holding the degree doctor of philosophy has been announced by the Committee on Awards for the Minnie L. Maffett Fellowship Fund of the Texas Federation of Business and Professional Women's Clubs. The Medical Branch also has received $15,000 from the National Fund for Medical Education, New York, to be distributed among the teaching departments.

Dr. R. E. Cone, Galveston, donated $2,270 toward air conditioning the urology clinic in the Outpatient Department. Dr. Harriet Rogers, Dallas, gave $100 to the loan fund for women medical students.

Recipients of recent grants are Dr. T. H. Harris, $2,250 to be used under his direction in the Department of Neuropsychiatry, and Dr. Raymond Gregory, $750 for special research.

PERSONALS

Dr. John L. Otto, Galveston, spoke on "The Kinds, Causes, and Control of Epilepsy" at the Bexar County Epilepsy League meeting November 8 in San Antonio, reports the San Antonio *Express.*

Dr. R. E. Leslie, El Campo, has been named president of the Coastal Bend Heart Association, chartered recently by the Texas Heart Association, according to the Ganado *Tribune.*

Dr. Robert W. Shirey, Hillsboro, has been elected a director of Hill County Tuberculosis Association, according to the Dallas *Morning News.*

Dr. Arthur Nordmeyer, Mission, has been appointed acting superintendent of the Weaver H. Baker Sanatorium replacing Dr. W. D. May, who recently resigned, states the Mission *Times.*

Dr. R. E. Johnson has been appointed director of the city-county department of public welfare and public health of Lubbock, according to the Lubbock *Evening Journal.* Dr. Johnson was formerly health director at San Angelo.

Dr. Harvey Renger, Hallettsville, was elected president of the State Private Clinic and Hospital Association and *Dr. C. L. Curlee,* Sinton, a councilor and member of the board of governors at the October meeting in Austin, according to the Hallettsville *Tribune* and the Sinton *Enterprise.*

Officers of the newly formed Central Texas chapter of the Texas Academy of General Practice, organized recently in Waco, are Drs. Ross Shipp, Waco, president; F. Clay Weekley, Waco, vice-president; and Edwin Goodall, Gatesville, secretary-treasurer, according to the Waco *Times-Herald.*

Dr. Harry M. Spence, Dallas, has been named president of the South Central Section of the American Urological Association. The organization met in Houston in October, according to the Houston *Post.*

Dr. Jack E. Maxfield, Wichita Falls, has been elected to membership in the Clinical Orthopedic Society, reports the Wichita Falls *Record News.*

Dr. Hamilton Ford, Galveston, is secretary-treasurer for 1951-1952 of the American Therapeutic Society, according to a recent issue of *The Journal of the American Medical Association.*

Dr. John R. Winston, Temple, was appointed medical director for the Santa Fe Railway System in October and will maintain headquarters in Temple, according to the Moody *Courier.* He will be succeeded as chief physician of the Gulf, Colorado, and Santa Fe Hospital Association by *Dr. T. F. Bunkley,* also of Temple.

Dr. Paul Meyer, Port Arthur, was reelected for a second term as president of the Port Arthur YMCA in November, states the Beaumont *Enterprise.*

The eighty-second birthday of *Dr. W. L. Barnard,* Carrizo Springs, was the occasion for a surprise party, a tea, given by his wife, reports the Carrizo Springs *Javelin.* Dr. Barnard has been in medical practice for fifty years, forty-two of them in Carrizo Springs.

Dr. Robert H. McLeod was the subject of a story, including his picture, in the Palestine *Herald* recently. He has practiced medicine in Palestine for fifty-three years.

Directors of the Stephenville State Bank elected *Dr. J. C. Terrell* chairman in October, according to the Fort Worth *Press.*

A Waco doctor, *Dr. Hannibal L. Jaworski,* in October was awarded a bronze medal, one of twenty-seven such awards given by the Carnegie Hero Fund Commission. He was one of two Texans so honored. Dr. Jaworski saved the lives of two fishermen in Lake Waco the night of November 15, 1950, the Waco *News-Tribune* reports.

After thirty-seven and a half years of practicing medicine *Dr. John G. Welch,* Port Neches, retired the last day of October, reports the Port Neches *Chronicle.*

Dr. and Mrs. A. L. Lincecum were honored on their fifty-fourth wedding anniversary by the playing of "Mendelssohn's Wedding March" during a regular weekly broadcast "This Is Your Hospital" in El Campo on October 24, according to the El Campo *News.* Mrs. Lincecum, who could not be present because of illness, heard the congratulations of friends at the hospital and the interview with Dr. Lincecum over the air.

Dr. C. E. Davis, Linden physician for more than fifty-five years, was honored at a county-wide banquet and a parade at Linden October 30 under the sponsorship of the American Legion, informs the Dallas *Morning News.* He was given an inscribed watch.

Dr. and Mrs. James I. Allen, Nacogdoches, are the parents of a son born December 7, their third child. They have a daughter and another son.

A boy was born recently to *Dr. and Mrs. G. D. Ford,* Galveston, states the University of Texas Alumni *Bulletin.*

Dr. and Mrs. J. M. Laughlin, Sweeny, are the recent parents of a girl, according to the University of Texas Alumni *Bulletin.*

Blood Bank Association Meets

The second annual meeting of the Texas Association of Blood Banks was held in San Antonio on December 3 with Dr. William Levin, Galveston, presiding. More than 100 representatives of blood banks and hospitals plus surgeons and administrative personnel interested in blood banking attended.

The association, organized December 7, 1949, to foster the exchange of ideas and information about blood banking, to plan for cooperation in times of disaster, to function as a clearing house on training of personnel, to encourage high standards of service, and to aid the extension of service throughout the state, adopted two resolutions. One approved the establishment under the supervision of the executive board of a separate clearing house for maintaining records and helping in the exchange of blood between banks scattered throughout the state. The other expressed the desire of the association to foster adequate facilities to make blood available at minimum cost for civilian needs and to cooperate in the collection of blood for the armed forces. A report of the standards committee stipulating that National Institutes of Health requirements as a minimum should be adhered to by members of the association was accepted.

The executive board expressed its desire to inform the medical profession and others interested in blood banks of the readiness of the Texas Association of Blood Banks to assist in establishing new blood banks or improving existing facilities and to act as an information center on blood bank matters. Inquiries regarding the work of the association may be addressed to Miss Marjorie Saunders, secretary, Texas Association of Blood Banks, 3303 Worth, Dallas. Membership is open both to institutions operating blood banks and to individuals interested in such service; a monthly news bulletin containing information about blood bank techniques as well as association news is issued to members.

An invitation from the University of Texas Medical Branch to hold the 1952 meeting of the association in Galveston was accepted. Officers who will serve until that time are Dr. E. E. Muirhead, Dallas, president; Dr. W. N. Powell, Temple, president-elect; Dr. C. T. Ashworth, Fort Worth, vice-president; Miss Saunders, secretary; and Miss Jean Stubbins, M. T., Galveston, treasurer.

New Orleans Graduate Medical Assembly

The fifteenth annual meeting of the New Orleans Graduate Medical Assembly will be held from March 10 to 13, 1952, at the Municipal Auditorium, New Orleans. The registration fee of $20 will include admittance to lectures, symposiums, clinicopathologic conferences, round-table luncheons, surgical and medical procedures on color television, technical exhibits, and medical motion pictures.

Guest speakers and their specialties are as follows: Drs. Leo V. Hand, Boston, anesthesiology; John H. Lamb, Oklahoma City, dermatology; J. Arnold Bargen, Rochester, gastroenterology; Ralph A. Reis, Chicago, gynecology; Charles A. Doan, Columbus, medicine; John P. Merrill, Boston, medicine; William Parsons, Charlottesville, Va., medicine; Jacob E. Finesinger, Baltimore, neuropsychiatry; Leroy A. Calkins, Kansas City, Kan., obstetrics; John H. Dunnington, New York, ophthalmology; Edward L. Compere, Chicago, orthopedic surgery; Hayes Martin, New York, otolaryngology; Oscar B. Hunter, Sr., Washington, pathology; Margaret M. Nicholson, Washington, pediatrics; Paul C. Swenson, Philadelphia, radiology; Richard B. Cattell, Boston, surgery; Claude F. Dixon, Rochester, surgery; and Frank C. Hamm, Brooklyn, urology.

A postclinical tour to Merida, Mexico City, Cuernavaca, Taxco, and Acapulco will be held from March 15 to 29. Additional information may be obtained by writing the Secretary, Room 103, 1430 Tulane Avenue, New Orleans 12.

TEXAS MEDICAL CENTER FIFTH ANNIVERSARY

A brochure "The Texas Medical Center" takes stock of the progress made since the Center was inaugurated in Houston in 1946 and considers the needs and plans for the coming years. The booklet is illustrated with a map showing a portion of the 163 acre Medical Center tract and several photographs and artists' sketches of the structures already built, under construction, or soon to be constructed.

Buildings already in use are Methodist Hospital, the Veterans Administration Hospital, University of Houston School of Nursing, the old and new Hermann Hospitals, the Hermann Professional Building, Baylor University College of Medicine, and St. Luke's Episcopal Hospital. Nearing completion are the M. D. Anderson Hospital for Cancer Research, the Arabia Temple Crippled Children's Clinic, the Texas Children's Hospital, and St. Luke's Episcopal Hospital. Soon to be started are the University of Texas Dental Branch, the Library of Medicine of the Houston Academy of Medicine, and the new Jefferson Davis Hospital.

Physicians' Fees in Houston

Houston is among twelve cities in the United States for which doctors' fees are analyzed in the December, 1951, issue of *Medical Economics.* Considered are the charges for office, house, and night calls, from the standpoint of the median fee for 1951 and the percentage of rise in fees from 1946 to 1951. The conclusion reached was that Houston general practitioners charge on a par with colleagues in less prosperous cities.

SURGEONS TO MEET IN DALLAS

A sectional meeting of the American College of Surgeons to which members of the Texas Medical Association are invited will be held in Dallas, February 4-6. The first two days will offer scientific sessions at the Hotel Adolphus and the third a series of teaching clinics and demonstrations in Dallas hospitals.

A schedule of the clinics will be posted at the registration desk during the meeting. The other sessions will include a number of new motion pictures on surgical subjects and a stereoscopic colored film on radical resection for carcinoma of the stomach. Panel discussions on breast tumors, intestinal obstruction, hysterectomy, and bleeding from the gastrointestinal tract and symposiums on trauma and cancer, plus a number of papers on a variety of topics will round out the scientific program.

Participants in the program will be from throughout the United States. Texas will be represented by Drs. Joe T. Gilbert, Austin; John L. Goforth, Arthur Grollman, and Cecil O. Patterson, Dallas; Albert O. Singleton, Jr., Robert M. Moore, and Willard R. Cooke, Galveston; John P. Heaney and John A. Wall, Houston; Albert W. Hartman, Jr., San Antonio; Robert L. Sewell, Fort Worth; and C. M. Pomerat, Ph. D., Galveston, who will present papers or take part in the panels; Dr. R. Lee Clark, Jr., Houston, who will show a motion picture; and Drs. John V. Goode, Dallas, chairman of the committee on arrangements; G. V. Brindley, Temple; Jack Furman, Fort Worth; and H. J. Ehlers, Houston, governors of the American College of Surgeons for Texas; and Felix P. Miller, El Paso, who will preside at various sessions.

Hotel accommodations may be obtained by writing James R. Shaffer, Sales Manager, Hotel Adolphus, Dallas. Further information about the meeting may be obtained by writing the office of the American College of Surgeons, 40 East Erie Street, Chicago 11.

CHICAGO CLINICAL CONFERENCE

The spring clinical conference of the Chicago Medical Society will be held March 4-7 in the Palmer House, Chicago. A number of demonstrations or work shop periods will be held in addition to the regular series of lectures. These demonstrations will include presentation of patients, and scientific motion pictures. Lectures will be for the general practitioner as well as the specialist, and scientific and technical exhibits will be a part of the meeting.

The completed program will be printed in the society's bulletin or will be mailed upon request addressed to Dr. H. Kenneth Scatliff, President, 86 East Randolph Street, Chicago 1.

College of Physicians to New Orleans

A mid-South regional meeting of the American College of Physicians is set for February 15 and 16 in New Orleans. Texas, Louisiana, Tennessee, Arkansas, Mississippi, and Oklahoma physicians who are fellows of the college or interested especially in internal medicine are invited to take part in the meeting, and their wives will be entertained during the two days.

Members of the departments of medicine at the Ochsner Clinic, Louisiana State University School of Medicine, Veterans Administration Hospital, and Tulane University School of Medicine, all of New Orleans, will contribute four series of clinical presentations. A panel discussion of new therapeutic agents, exclusive of ACTH and cortisone, and a clinicopathologic conference will be other features of the scientific program. Drs. Donald W. Seldin, Dallas; James A. Greene, Houston; Raymond L. Gregory, Galveston; and Don W. Chapman, Houston, are Texans who will contribute papers.

Cocktails and dinner the evening of February 15 will be a high point of the meeting, with Mr. E. R. Loveland, Philadelphia, executive secretary of the college; Dr. Maurice C. Pincoffs, Baltimore, its president; and Mr. Jimmy Arrington, mayor of Collins, Miss., as guests of honor.

Dr. David W. Carter, Jr., Dallas, governor for the college in Texas, can provide additional information about the New Orleans session.

FOURTH ANNUAL NEUROPSYCHIATRIC MEETING

The fourth annual neuropsychiatric meeting will be held at the Veterans Administration Hospital, North Little Rock, February 28 and 29. Vice-Admiral Joel T. Boone, M. C., Ret., chief medical director for the Veterans Administration, Washington, D. C., will speak at a dinner February 28. The following guest lecturers will participate in the scientific sessions:

DR. LEO H. BARTEMEIER, president, American Psychiatric Association, Detroit.

DR. DANIEL BLAIN, medical director, American Psychiatric Association, Washington, D. C.

DR. PAUL C. BUCY, neurosurgeon, Chicago.

DR. D. EWEN CAMERON, president-elect, American Psychiatric Association, Montreal, Canada.

MISS HESTER B. CRUTCHER, director of social work, New York State Department of Mental Hygiene, Albany, N. Y.

DR. E. H. CUSHING, assistant chief medical director, Research and Education Service, Veterans Administration, Washington, D. C.

DR. EDWIN F. GILDEA, head of Department of Neuropsychiatry, Washington University School of Medicine, St. Louis.

DR. O. HOBART MOWRER, research professor of psychology, University of Illinois, Urbana.

DR. PHILIP THOREK, surgeon, Chicago.

DR. HARVEY J. TOMPKINS, chief, Psychiatry and Neurology Division, Veterans Administration, Washington, D. C.

MISS MARY JANE WARD, author of "Snake Pit," Evanston, Ill.

There is no registration fee and interested professional personnel may attend. Further information may be obtained from Dr. Ewin S. Chappell, director of professional education, Veterans Administration Hospital, North Little Rock.

Urology Competition Slated

Prizes of $500, $300, and $200 will be given by the American Urological Association for the best essays on the result of clinical or laboratory research in urology received by February 15, 1952. Only urologists who have been in the specialty for not more than five years and physicians in training to become urologists are eligible to participate in the competition. Full particulars may be obtained from the secretary, Dr. Charles H. de T. Shivers, Boardwalk National Arcade Building, Atlantic City.

Reduction of Infant Mortality

Reduction of infant mortality in the United States by about one half in less than twenty years is credited partially to the use of so-called miracle drugs, reports the Metropolitan Life Insurance Company statisticians. Other reasons given for the decline include the broad adoption of immunization and other preventive measures, improved infant care and feeding, widespread use of hospitals for confinement and illness, and the rise in the American family's standard of living.

LIBRARY SECTION

PACKAGE SERVICE

The package library consists of collections of reprints and other periodical material on various subjects, prepared for lending to members of the Association. Request for packages should be addressed "Library, Texas Medical Association, 700 Guadalupe Street, Austin, Texas." Twenty-five cents in stamps should be enclosed with the request to cover postage and part of the expense of collecting the material. Packages are allowed to remain in the hands of the borrower for 14 days.

ACCESSIONS

The following additions were made to the Library during December:

Reprints received, 1,012.
Journals received, 279.
Books received, 18.

Diet Prevents Polio, Sandler, Lee Foundation for Nutritional Research, Milwaukee, Wis.

1951 Yearbook of General Surgery, Graham (editor); *1951 Yearbook of Radiology,* Hodges and others (editors), Yearbook Publishers, Chicago.

Textbook of Refraction, Tait, W. B. Saunders, Philadelphia.

Cardiac Pain, Rinzler; *Roentgen Examination in Acute Abdominal Diseases,* Friman-Dahl; *The Pathogenesis of Tuberculosis,* ed. 2, Rich; *Nutrition and Climatic Stress,* Mitchell and Edman; *Hypertension, Manual for Patients,* Page; *Galen's Hygiene, A Translation,* Green; *Electrocardiographic Studies in Normal Infants and Children,* Ziegler; *Aphorisms of Dr. Charles H. Mayo and Dr. William J. Mayo,* Charles C. Thomas, Springfield, Ill.

A Course in Practical Therapeutics, ed. 2, Rehfuss and Price; *Medical Milestones,* Marriott; *Modern Electrocardiography,* vol. I, Lepeschkin, Williams and Wilkins, Baltimore.

Annual Report, 1950, Rockefeller Foundation, International Health Division, Rockefeller Foundation, New York.

Penicillin Decade, 1941-1951, Smith; *Antibiotic Therapy,* Lewis, Arundell Press, Inc., Washington, D. C.

SUMMARY OF SERVICE

Local users, 45.	Packages mailed, 42.
Borrowers by mail, 42.	Films loaned, 53.

MOTION PICTURE FILM LIBRARY

Motion picture films on medical subjects, 16 mm., both silent and sound, some in color, and suitable for either medical or lay audiences, are available for loan to county medical societies, hospital staffs, or individual physicians, on request. Borrowers will be requested to pay only the cost of shipment of the films, by express, with insurance, and for any damage to films in the hands of the borrower.

Request for films should be addressed to "Motion Picture Film Library, Texas Medical Association, 700 Guadalupe Street, Austin, Texas." A list of available films with descriptions, will be furnished on request.

The following motion pictures were loaned by the Library during the month of December:

Accident Services (British Information Services)—Cameron County Committee for Disaster Relief, Harlingen.

Anesthesia, Low Spinal (Modified Saddle Block) in Obstetrics (Ciba Pharmaceutical Products)—Robert B. Green Hospital House Staff, San Antonio.

Anesthesia, Novocaine, In Obstetrics (Winthrop-Stearns)—Dr. Frank H. Pratt, Rocksprings.

Anesthesia, Regional (Winthrop-Stearns)—Dr. Frank H. Pratt, Rocksprings.

As Others See Us (American Hospital Association)—Junior College Program, Austin State Hospital, Austin, and Bethany School of Nursing, Kansas City, Kan.

Aureomycin, The Versatile Antibiotic (Lederle Laboratories)—Kimble-Mason-Menard-McCulloch Counties Medical Society, Brady.

Behind the Shadows (Texas Tuberculosis Association)—Orange County High School, Orange.

Bleeding Tendency, Methods for Determination of (Mead Johnson)—Scott and White Memorial Hospital School of Nursing, Temple.

Breast Self Examination for Women (American Cancer Society)—Hamlin Memorial Hospital, Hamlin.

Cervical Smears (Dr. Karl J. Karnaky)—Reunion of Residents in Obstetrics and Gynecology, Sinai Hospital, Baltimore, Md.

Cesarean Section, Low Cervical (Mead Johnson)—Dr. George W. Sibley, Brownfield.

Chest Disease, Surgery in (British Information Services)—Arlington State College, Arlington.

Cloud in the Sky (Texas Tuberculosis Association)—Washington Avenue School, Roswell, N. Mex.

Coming Home (Texas Tuberculosis Association)—Texas Tuberculosis Association, Austin.

Diagnosis of Poliomyelitis (National Foundation for Infantile Paralysis)—Lillie Jolly School of Nursing, Houston.

Diphtheria Antitoxin, Preparation of (American Medical Association)—Harris College of Nursing, Fort Worth.

Electric Shock Therapy in Depressions (Drs. Blair and Cooper)—Veterans Administration Hospital, Marlin.

Esophagus, Surgical Treatment for Carcinoma of the Lower End of (Dr. Philip Thorek)—Bee-Live Oak-McMullen Counties Medical Society, Beeville, and Dr. John F. Thomas, Austin.

Functional Anatomy of the Hand (National Foundation for Infantile Paralysis)—Dr. W. F. Parsons, Fort Worth.

Gastrectomy, Safer (Billy Burke Productions)—Dr. George W. Sibley, Brownfield.

Gastro-Intestinal Cancer: The Problem of Early Diagnosis (American Cancer Society)—Dilley Clinic Hospital Staff, Dilley, and Alpha Epsilon Delta, University of Texas, Austin.

Goodbye, Mr. Germ (Texas Tuberculosis Association)—Orange County High School, Orange.

Hemicolectomy for Carcinoma of the Right Side of the Colon (Dr. Philip Thorek)—Dawson-Lynn-Terry-Gaines-Yoakum Counties Medical Society, Brownfield.

Hepatitis, Observations on (Mead Johnson)—Poplar Bluff Hospital, Poplar Bluff, Mo.

Here's Health the American Way (American Medical Association)—Woman's Auxiliary to McLennan County Medical Society, Waco.

Human Fertility, Studies in (Ortho-Products)—Cinemedical Society of Waco, Waco.

Human Sterility (Winthrop-Stearns)—Robert B. Green Hospital House Staff, San Antonio, and Obstetrics Staff, Shannon Hospital, San Angelo.

Hypodermic Syringes and Needles: Their Care and Function (Becton, Dickinson and Company)—Hamlin Memorial Hospital, Hamlin.

Hysterectomy (Mead Johnson) — Dawson - Lynn - Terry - Gaines-Yoakum Counties Medical Society, Brownfield.

Immunization Against Infectious Diseases (Lederle Laboratories)—Scott and White Memorial Hospital School of Nursing, Temple.

Injuries, Athletic, Care and Prevention (Becton, Dickinson and Company)—Wylie Football Team, Wylie, and Tahoka Hospital and Clinic, Tahoka.

Malaria (British Information Services)—Lillie Jolly School of Nursing, Houston.

Oxygen Therapy Procedures (Linde Air Products)—Austin State Hospital, Austin.

Polio—Diagnosis and Management (British Information Services)—Lillie Jolly School of Nursing, Houston.

Post-Poliomyelitis Paralysis, Operative Procedures (National Foundation for Infantile Paralysis)—Lillie Jolly School of Nursing, Houston.

Question in Time (American Cancer Society)—Dr. George W. Sibley, Brownfield.

Roentgen Pelvimetry (Mead Johnson)—Cinemedical Society of Waco, Waco.

Skin Grafting of Extensive Burns (Eaton Laboratories)—Dr. W. F. Parsons, Fort Worth, and Alpha Epsilon Delta, University of Texas, Austin.

Sulfonamide Therapy (Lederle Laboratories)—Southwestern University Pre-Medical Association, Georgetown.

Sutures Since Lister (Johnson and Johnson)—Johns Clinic and Hospital, Taylor.

Time Is Life (American Cancer Society)—1924 Study Club, Wellington.

Traitor Within (American Cancer Society)—1924 Study Club, Wellington.

Uterosalpingography (E. Fougera and Company)—Cinemedical Society of Waco, Waco.

Varicose Veins and Their Complications (Becton, Dickinson and Company) — Kimble - Mason - Menard - McCulloch Counties Medical Society, Brady.

Varicose Veins, Treatment of (G. D. Searle)—Dr. L. M. Morrisset, Wylie.

Vitamins and Some Deficiency Diseases (Lederle Laboratories)—Alpha Epsilon Delta, Baylor University, Waco.

What Is Cancer? (American Cancer Society)—Southwestern University Pre-Medical Association, Georgetown.

BOOK NOTICES

[1]John Hunter

S. ROODHOUSE GLOYNE, M. D. *(Leeds), Consulting Pathologist, London Chest Hospital and King Edward VII Sanatorium, Midhurst. Cloth, 99 pages. $3.50. Baltimore, Williams and Wilkins Company, 1950.*

This book is the eleventh in the series of biographies of John Hunter that have come out since his sudden death October 16, 1793, the same day and perhaps the same time Marie Antoinette was led to the guillotine. It is less pleasing as a narrative than Paget's life of Hunter but from the standpoint of medical history has the rare merit of making the reader aware of the social, cultural, and scientific setting of Hunter's life and endeavor.

Measured by the tempo of medical progress in the twentieth century, the contributions of John Hunter to medical knowledge seem meager, but his rugged refusal to bow to ancient formulas, his dogged insistence on the experimental method, and his emphasis on comparative anatomy and physiology mark him as a potent factor in initiating the changes that have brought medicine to its present level. He well deserved the honors he received during life and his resting place at Westminster Abbey.

Until Hunter's time, medicine had been looked upon generally as a lowly calling. For Montaigne in Shakespeare's day the doctor was an object of contempt, a person to be sedulously avoided by the sick. To Moliere and Le Sage he was a clown to be ridiculed. In Hunter's time the general run of physicians and surgeons were more of a menace than a help to their patients and had little more to offer than their consolation. It was three years after Hunter's death that Jenner, his favorite pupil, first attempted vaccination against smallpox. A number of contemporaries of Hunter were beginning to put tools into the hands of Drs. Leeuwenhoek and Withering of the Edinburgh School. Yet all the resources of the best in medicine were a far cry from the present era, when medicine has so much to offer mankind that a clamor arises for its socialization.

[1]*W. R. Houston, M. D., Austin.*

[2]Emotional Factors in Cardiovascular Disease

EDWARD WEISS, M. D., *Professor of Clinical Medicine, Temple University School of Medicine, Philadelphia. Lexide, $2.25. 84 pages. Springfield, Ill., Charles C. Thomas, 1951.*

This is a short monograph in the American Lecture Series. The first sixty-four pages cover briefly emotional disorders of the heart, of which anxiety and the heart, neurocirculatory asthenia, and anxiety and hypertension are discussed. A page and one-half is devoted to anxiety and low blood pressure. The last part of the monograph is devoted to anxiety and organic heart disease.

The subject matter is well arranged but necessarily brief. A few case histories are used by the author to illustrate his points. The present day concept of neurocirculatory asthenia is discussed briefly. The role of anxiety in producing some of the symptoms of hypertension is well presented.

Treatment is briefly discussed under each heading and a bibliography included.

[3]Carbon Dioxide Therapy

L. J. MEDUNA, M. D., *Professor of Psychiatry, University of Illinois College of Medicine, Chicago. First edition. Cloth, 225 pages. $5. Springfield, Ill., Charles C. Thomas, 1950.*

The author of this book is a champion of the physiologic attack on mental illness. Dr. Meduna began in 1934 to experiment with convulsions, first induced by camphor and later by Metrazol, in the treatment of schizophrenia, methods which have been largely supplanted by convulsions electrically induced. That electroshock is of benefit in selected cases of emotional illness is no longer a cause for discussion, but the mechanism by which its undoubted ameliorating effects are brought about is still speculative, and the multiplicity of theories suggest that no single one has gained the majority of disciples. Now Dr. Meduna introduces another neurophysiologic approach to the treatment of mental illness.

The author advances his theory of the neuroses that human behavior is an effort to attain homeostasis. Suffering sets up currents producing tension, which in turn may be removed by conation through effector pathways. If conation is unsuccessful, the circuits continue to "reverberate" and a spread to nonspecific effectors takes place. According to the author, psychoneurosis develops when the threshold to stimuli of the reverberating loops is lowered. "CO_2 cures those psychoneurotic conditions when by repeated administration it has permanently increased the threshold to stimuli of the reverberating circuit and thus achieves homeostasis."

[2]*William Rosenblatt, M. D., Wichita Falls.*
[3]*David M. Keedy, M. D., San Antonio.*

Through this theory he is able to classify all physiologic, physical, and chemical agents as beneficial if they can raise the threshold to stimulation. Chapters on neurophysiology, a complex subject, are dealt with superbly. Meduna describes the inhalation of 30 per cent carbon dioxide and 70 per cent oxygen, which compared to any other technique currently used, either physical or psychologic, is simple. Cases of the various psychoneurotic categories treated, with 68 per cent improvement and 7 per cent relapse during six to eight years, are reported. A concluding chapter consists of his argumentation.

The author believes that the core of traditional psychiatric teaching is that functional mental illnesses basically are psychologically produced but that the core of treatment need not be psychologic. Here he compromises his theory with current psychiatric thought. Yet, after Freud's theories, the greatest advances have been made in the field of neurophysiology: the "general adaptation syndrome" of the Scandinavian microbiologist, Dr. Hans Selye, fruitful research in the pharmacology of the autonomic nervous system, electroshock, and now carbon dioxide therapy.

The public turns readily to psychiatry as the answer to individual and collective problems. If a method affording relief to a greater number of people can be provided, it will be a major turning point. Dr. Meduna's method is simple and sparing both of time and money. Therefore, it is not surprising that his technique of treatment of the psychoneuroses should have received attention in the lay press and, as usual, before being completely evaluated. Many psychiatric centers have test series under way and, as is the case with new therapeutic agents, many favorable reports are appearing in the medical journals. Reports were favorably received by the First International Congress of Psychiatry in Paris in 1950.

Dr. Meduna's technique may prove, as he suggests, a waystation on the road to further methods of treatment, as were convulsions induced by camphor, or another approach to shortening and simplifying the handling of those patients in whose treatment current methods are often arduous and protracted.

[4]Low-Sodium Diet

THURMAN B. RICE, A. M., M. D., *Professor of Public Health, Indiana University School of Medicine, Indianapolis. Cloth, 97 pages. $2.75. Philadelphia, Lea and Febiger, 1951.*

This short and reasonably concise book is undoubtedly the best source of information available for the patient and his family. The author understandingly is concerned with dietetic and other problems which face the person on a low sodium diet. This concern is not remarkable since the author follows the diet himself. A number of tables and diet sheets should make the diet much easier to follow. The book is particularly recommended for the person who prepares the food.

[5]Principles and Practice of Obstetrics

J. P. GREENHILL, M. D., *Attending Obstetrician and Gynecologist, The Michael Reese Hospital; Obstetrician and Gynecologist, Associate Staff, the Chicago Lying-In Hospital; Attending Gynecologist, Cook County Hospital; Professor of Gynecology, Cook County Graduate School of Medicine. (Originally by Joseph B. DeLee, M. D.) Tenth edition. Cloth, 981 pages. $12. Philadelphia, W. B. Saunders Company, 1951.*

The rapid and sustained progress in medicine and in obstetrics makes a book almost obsolete by the time it is released. This edition of DeLee and Greenhill, practically rewritten by Greenhill, is a monumental encylopedia of obstetric knowledge with only occasional statements as to what treatment or method is preferable.

The first two sections of part I are meticulously compiled and contain almost every important phase in obstetric literature pertaining to the physiology of reproduction, pregnancy, labor, and the puerperium. The chapters are full and will serve as a good textbook.

Greenhill's chapter on analgesia and anesthesia contains an excellent description of the methods in general use but without criticism of some of the well known dangers. Schumann's method of producing amnesia using Demerol and scopolamine receives a scant paragraph. The use of quinine and castor oil in Gwathmey's method and also in the induction of labor is mentioned but the effect of this therapy on the auditory nerve of the baby is not stressed. The old exercises during the puerperium pictured and described were necessary perhaps when the patient was subjected to long bed rest following delivery but not since ambulatory treatment is used. Greenhill considers laparotrachelotomy preferable to extraperitoneal section, fully as safe with the use of antibiotic drugs, and much less time consuming.

The chapter by Helene Deutsch should have been omitted. The "understanding heart" of DeLee would break to see the unnecessary suffering in the delivery rooms of today. What would he say about the unrealistic and fantastic masochistic approach of Read's method? These primitive methods and superstitious beliefs have no place in a modern scientific text. Although this chapter contains some interesting and true speculations on psychoanalytic interpretations in pregnancy and labor, psychoanalysis should be applied to the obstetricians using Read's method and allowing the mother to suffer as described by Deutsch.

Part II, "The Pathology of Pregnancy, Labor and Puerperium," is full, accurate, and well written. The book should be referred to and studied by the obstetrician whenever full knowledge of a situation is needed.

I share fully Dr. Greenhill's love and admiration for Dr. DeLee and look to Dr. Greenhill, with his great heritage of DeLee's life and work, to reach his individual, potential greatness as another independent and fearless teacher.

[6]Problems in Cerebellar Physiology

G. MORUZZI, M. D., *Professor and Head of the Department of Physiology, University of Pisa, Pisa, Italy; Annual Research Professor of Neurology, Northwestern University Medical School, Chicago. Cloth, $3.25. 116 pages. Springfield, Ill., Charles C. Thomas, 1950.*

This monograph of four lectures delivered at Northwestern University Medical School presents well in technical detail the status of cerebellar physiology today. It is written primarily for the neurophysiologist but is in such form as to be useful to the clinical neurologist and the advanced student. Its purpose apparently is to survey critically the results obtained in recent investigations of cerebellar physiology devoted to the anterior lobe.

Material covered includes cerebellar inhibition of postural tonus, cerebellar facilitation of postural tonus, functional interrelations between cerebellum and cerebral motor cortex, and the cerebellar influence in the autonomic sphere.

Little attention is given to the historical development of cerebellar physiology, and no endeavor to apply clinically the author's research and studies to the practice of neurology is made. The author writes for readers who have a thorough knowledge of the subject, evidently believing it unnecessary to state or stress the clinical value which could

[4]*Wylie F. Creel, M. D., Austin.*
[5]*B. H. Passmore, M. D., San Antonio.*
[6]*John E. Talley, M. D., Waco.*

be developed from his work. The extensive bibliography includes the literature on this subject by European and American writers of the last two decades.

[7]Textbook of Obstetrics and Obstetric Nursing

MAE M. BOOKMILLER, R. N., *Instructor in Obstetric Nursing, New York University, College of Medicine; Supervisor in Obstetrics, Division of Nursing, Bellevue Hospital, New York; and* GEORGE LOVERIDGE BOWEN, M. D., *Associate Clinical Professor of Obstetrics and Gynecology, New York University, College of Medicine. Cloth, 714 pages. $4.50. Philadelphia, W. B. Saunders Company, 1949.*

This is a well written textbook of obstetrics for nurses. It is designed primarily for the student in the basic nursing program; however, some sections are in more detail than would be necessary in such a program. This is not undesirable because the book is written in a style which can be easily understood and makes it have a wider appeal.

The subject matter is well arranged and planned to cover the entire field of obstetric nursing including its history. Following the history are units on human reproduction, nursing and pregnancy, nursing during labor and delivery, nursing in the neonatal period, and nursing during the puerperium. There is an excellent glossary; test questions and listing of situations at the end of each chapter are good and a section on care of the newborn infant is well done.

There is an abundance of well conceived original illustrations and drawings by the famous medical artist, Dr. Frank Netter, which greatly enhances the usefulness of the text.

The many good features of this book commend it as an excellent text for the student and graduate nurse.

[8]Pharmacological Basis of Penicillin Therapy

KARL H. BEYER, PH. D., M. D., F.A.C.P., *Director of Pharmacological Research, Medical Research Division, Sharp and Dohme, Inc., Glenolden, Pa. Roxite, 199 pages. $4.50. Springfield, Ill., Charles C. Thomas, 1950.*

This short monograph is seventh in the American Lecture Series in Pharmacology edited by Chauncey D. Leake of the University of Texas Medical Branch. Penicillin is of such wide use and importance in medicine that a review of its pharmacologic actions is welcome. The monograph presents in a concise, yet thorough manner, the available data on the absorption, distribution, mode of action, dosage regimes, and other basic pharmacologic aspects of penicillin therapy. The author has studied extensively the mechanisms of the renal elimination of penicillin and has been responsible for the introduction of carinamide and benemid as agents to inhibit its excretion. A large portion of the book accordingly is devoted to this problem.

The book is well written in a clear and succinct style with ample illustrative graphs, tables, and references to the literature. It should prove of greatest interest to the pharmacologist but may also be recommended to the internist desirous of a better understanding of the course of the drug in the body.

[9]Medical Diagnosis

Edited by ROSCOE L. PULLEN, M. D., F.A.C.P., *Professor of Graduate Medicine and Vice Dean of the School of Medicine, Tulane University of Louisiana; Senior Visiting Physician, Charity Hospital of Louisiana at New Orleans. Second edition. Cloth, 1,042 pages. $12.50. Philadelphia, W. B. Saunders Company, 1950.*

This book is in step with the current trend to teach physical diagnosis as a part of medical diagnosis, integrating or correlating the physical findings with all other accessory aids in diagnosis.

Revamping of this relatively new textbook brings it abreast of new concepts in those fields which are constantly changing, particularly endocrinology and electrocardiography. The new section on electrocardiographic diagnosis is more than adequate for the medical student or general practitioner. Regional presentations of the standard methods of physical diagnosis are nicely supplemented by excellent photographs and diagrams. The book is recommended not only for medical students but as a reference for the forgotten diagnostic aid.

[10]Surgery of the Stomach and Duodenum

CLAUDE E. WELCH, M. D., *Associate Visiting Surgeon, Massachusetts General Hospital; Clinical Associate in Surgery, Harvard Medical School. Cloth, 338 pages. $8.50. Chicago, Year Book Publishers, 1951.*

This book is the first of a series of handbooks of operative surgery which the publishers have in preparation. Dr. Welch has done an exceptionally fine piece of work and has set a precedent which should inspire those authors who are to follow him.

The general idea of these handbooks is to present surgical technique in a vivid, step-by-step manner with an abundance of plates and a minimum of text. Dr. Welch has managed to present his text in a clear, concise style that is readily followed. He covers all of the common surgical procedures that are carried out on the stomach and duodenum, and also includes preoperative and postoperative care. Emphasis is placed correctly on the important points, and the chapters on the difficult duodenal stump and the complications of gastric resection are admirably done. Hazards and safeguards are stressed throughout. Controversial points such as ante-colic versus post-colic anastamoses and anti-peristaltic versus isoperistaltic loops are minimized; however, when there are differences of opinion of major importance, the alternative methods are given with due recognition of their advocates.

The operative technique is illustrated by 79 full page plates which have been prepared with an emphasis on clarity rather than artistic beauty. A helpful innovation is the placing of illustrations and related text always on facing pages.

These features all combine to make the volume a ready reference manual which the surgeon can use rapidly to get the information he needs with a minimum of effort. To all operators except those with extensive experience in gastroduodenal surgery this book should be a useful volume. In the opinion of the reviewer it fulfills a need of most general surgeons and presents the "meat" of this large surgical field in the most practical way that has yet appeared.

[11]Clinical Heart Disease

SAMUEL A. LEVINE, M. D., F.A.C.P., *Clinical Professor of Medicine, Harvard Medical School; Physician, Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton-Wellesley Hospital. Fourth edition. Cloth, 525 pages. $7.75. Philadelphia, W. B. Saunders Company, 1951.*

The fourth edition of this classical text on heart disease brings this old favorite completely up to date. Dr. Levine in his inimitable easy flowing style covers completely the prominent features of heart disease, with frequent references to cases he has seen.

The discussion regarding rheumatic fever covers such recent innovations as intravenous sodium salicylate, large doses of ascorbic acid, cortisone, and ACTH in acute processes and

[7]*R. H. Bell, M. D., Palestine.*
[8]*Arthur Grollman, M. D., Dallas.*
[9]*T. G. Coleman, M. D., San Angelo.*
[10]*Carl A. Kunath, M. D., San Angelo.*
[11]*Maurice M. Scurry, M. D., Dallas.*

prophylaxis with antibiotics and sulfonamides. The author being an outstanding authority on auscultation presents adequate discussions on the clinical diagnosis of valvular heart disease. He devotes an entire chapter to the reevaluation of our concept of the significance of the systolic murmur, which originally was overemphasized, lately has been under-estimated, and finally in this discussion probably is put in its proper relative position.

The section regarding arteriosclerotic heart disease is delightful and includes discussion of Khellin, a new Egyptian drug for coronary dilation in angina, as well as anticoagulant therapy in myocardial infarction. Dr. Levine is an advocate of the use of quinidine more freely than some, but he quotes some gratifying experiences concerning its use, especially in paroxysmal ventricular tachycardia, which occasionally is such a serious complication of myocardial infarction. There is also mention of the use in paroxysmal ventricular tachycardia of Pronestyl (procaine amide), a new and effective drug having therapeutic value similar to quinidine.

The section on electrocardiography has been completely rewritten with the aid of Dr. Harold D. Levine. Its two hundred pages include an up-to-date discussion of the entire subject, including theories of electrical activity, unipolar limb leads, multiple chest leads, arrhythmias, myocardial infarction, electrolyte imbalance, pulmonary infarction, and a brief section on sound tracings. The book would be well worth its cost for this section alone and with its other fine sections is a requirement for any internist's adequate library.

ORGANIZATION SECTION

AMERICAN MEDICAL ASSOCIATION

A.M.A. CONFERENCES IN FEBRUARY

Two annual conferences of the American Medical Association will be held during February. The forty-eighth annual congress on medical education and licensure will take place February 10 to 12 at the Palmer House, Chicago; an all-day conference February 28 sponsored by the Council on Rural Health, plus the seventh National Conference on Rural Health February 29 and March 1, will constitute the program in the Shirley-Savoy Hotel, Denver.

The program of the Chicago congress will follow the general pattern of previous years except that the Federation of State Medical Boards of the United States will hold a business meeting February 10 and will not schedule a scientific program for the afternoon of February 12. Also, on February 10 the Advisory Boards for Medical Specialties will have an open meeting. Physicians writing the Palmer House for reservations should refer to the Annual Congress on Medical Education and Licensure.

"The Physician as a Citizen" will be the theme of the first day's conference on Rural Health in Denver. Participants in the program will be Dr. F. S. Crockett, Lafayette, Ind., chairman of the Council on Rural Health of the A.M.A.; Dr. Dwight H. Murray, Napa, Calif., chairman of the A.M.A. Board of Trustees; Dr. A. E. Spelman, Smithville, Mo., chairman of the Missouri State Medical Association's committee on rural medical service; Miss Charlotte B. Rickman, Lumberton, N. C., health education consultant for the North Carolina State Medical Society; Mrs. Mabel C. Mack, Corvallis, Ore., home demonstration leader, Oregon State College; Dr. J. Arnold Henry, Russellville, Ark., chairman of the Arkansas Medical Society's committee on rural health; and Paul Miller, Lansing, Mich., extension specialist for the Michigan State College.

Dr. Allen T. Stewart, Lubbock, President of the Texas Medical Association, is a member of the Council on Rural Health of the A.M.A.

CLINICAL SESSION AT LOS ANGELES

The 1951 meeting was the biggest clinical session ever held by the American Medical Association; 4,419 physicians and 4,656 guests registered. Attendance at the scientific program was the best ever, and interest in the scientific and technical exhibits was excellent.

A two day conference on public relations was held immediately prior to the clinical session. A well planned program presented an opportunity to those in attendance to observe how state and county societies are meeting the problem of better understanding between patient and doctor.

The House of Delegates convened Tuesday morning, December 4. Dr. John W. Cline, San Francisco, President, opened the session with an appeal to doctors to become militant citizens with determination to preserve the American way of life. Dr. Cline stressed that once socialism has become an accomplished fact, it will be very difficult to eliminate.

Dr. Dwight H. Murray, Napa, Calif., chairman of the Board of Trustees, announced that an additional half million dollars from the A.M.A. was being contributed to the American Medical Education Foundation. This contribution, together with the half million given at Cleveland in December, 1950, and $250,000 contributed by national, state, and local organizational and individual donations, totals $1,250,000 thus far given to the fund. Approximately $640,000 of this amount has been turned over to seventy-nine approved medical schools for their use.

High lights of the session included a nationwide radio broadcast of a nonpartisan forum before 6,500 people in Shrine Auditorium. The speakers were the Hon. Robert A. Taft, United States Senator from Ohio, and the Hon. Harry F. Byrd, United States Senator from Virginia. Another high point was the beaming of color television operations from Los Angeles to New York, the first time such a feat had been attempted.

Dr. A. C. Yoder, 87 year old Indianan, was elected General Practitioner of 1951.

Mr. Donald R. Wilson, national commander of the American Legion, spoke to the House of Delegates and pledged the support of the Legion against further regimentation from Washington.

A complete transcript of the proceedings of the House of Delegates may be found in the December 22, 1951, issue of *The Journal of the American Medical Association*. Following is a summary of some of the outstanding transactions:

The "Hess" report was superseded by issuance of "Guides for Conduct of Physicians in Relationships with Institutions." Principal features include: (1) Lay hospital management and professional staff should confer on financial problems. (2) Physicians should not dispose of professional services to any group under conditions which would permit the sale of such services for a fee. (3) Pathologists, roentgenologists, anesthesiologists, and psychiatrists should have equal rights and privileges as staff members.

Fellowship dues for 1952 were discontinued. This classification may be eliminated at the annual session in Chicago.

Faith in the public school system of America was affirmed by the House, which also commended educators who are opposed to socialism.

A new Hospital Accreditation Committee will be composed of six A.M.A. representatives, six American Hospital Association representatives, three representatives each from the American College of Surgeons and the American College of Physicians, and two representatives from Canada. This joint commission will do the work formerly done by the American College of Surgeons.

Medical care of war veterans and their families will be studied by a committee to be appointed by the Board of Trustees.

The Council on Medical Education and Hospitals was instructed to take action with regard to the deficient programs of some medical schools in the fields of dermatology and syphilology.

The Texas delegation at the Los Angeles meeting included fifty doctors registered and was the fourth largest representation from any state. Dr. Allen T. Stewart, Lubbock, President of the Texas Medical Association, and Dr. T. C. Terrell, Fort Worth, President-Elect, both of them delegates, headed the group. Other Texas delegates in attendance were Drs. B. E. Pickett, Carrizo Springs, chairman; E. H. Cary, Dallas; J. B. Copeland, San Antonio, and Robert B. Homan, Jr.; alternate delegates present were Drs. J. C. Terrell, Stephenville; Arthur C. Scott, Jr., Temple; and George Turner, El Paso. The delegate from the Section on Dermatology and Syphilology was Dr. Everett C. Fox, Dallas, and from the Section on Internal Medicine, Dr. Charles T. Stone, Galveston. Dr. F. J. L. Blasingame, Wharton, member of the Board of Trustees of both the Texas and the American Medical Associations, also was present.

Dr. R. W. Kimbro, Cleburne, chairman of the Committee on Public Relations for the Texas Medical Association, was the official representative at the public relations conference and was present for other sessions. N. C. Forrester, acting Executive Secretary; Philip R. Overton, general counsel; and W. E. Syers, public relations counsel, all of Austin, were at the Los Angeles meetings. Also present was Dr. Leo J. Peters, Schulenburg, General Practitioner for 1951 from Texas.

TEXAS MEDICAL ASSOCIATION

WANT A ROOM?

Physicians or others planning to attend the 1952 annual session of the Texas Medical Association should act now to obtain hotel accommodations, Dr. Andrew B. Small, Dallas, chairman of the Hotels Committee, urges. The Adolphus Hotel, where registration, exhibits, general meetings, and many other Association activities will be housed, and the Baker Hotel, where Woman's Auxiliary events and the remainder of Association affairs will take place, have guaranteed sizable blocks of bedrooms for the convenience of visitors, but as always, applications received first will be given first consideration. The House of Delegates will meet May 4, related organizations May 5, and the Association proper May 6 and 7.

Because of the probability that most convention guests can be housed in one of the two headquarters hotels, applications for reservations will be handled directly by the hotels. If a request cannot be filled, it will be turned over to the Dallas Hotel Association, which will arrange for adequate housing in other facilities.

In applying for reservations, each person should specify the type and number of accommodations desired, indicate the date and hour of arrival and departure, give the names and addresses of all persons for whom reservations are being requested, and give his own name and mailing address. The writer should mention his relationship to the Texas Medical Association (for example: member of the House of Delegates, technical exhibitor, committee chairman). No advance deposit will be required. Each person asking for reservations should request a written confirmation from the hotel and bring this confirmation to Dallas for presentation when he registers.

If anyone learns that the rooms he has reserved will not be needed, he should cancel the reservation promptly with the hotel.

The Hotel Committee is only one of several local committees which are preparing for the 1952 meeting. All local arrangements are under the supervision of Dr. William A. Altman, chairman of the Committee on General Arrangements for the Annual Session. Serving with him are Drs. A. B. Cairns, R. G. Carpenter, P. M. Girard, and Jabez Galt. Other local committees are as follows:

Information.—Floyd Norman, Chairman; Dan Gill, W. C. Hawkins.

Clinical Luncheons.—Casey Patterson, Chairman; Tom Nash, R. G. Carpenter, Arvel E. Haley, Herman O. Krempin, Cecil I. Stell.

Alumni and Fraternity Banquets.—J. E. Miller, Chairman; Martin S. Buehler, A. J. Gill.

Hotels.—Andrew B. Small, Chairman; Morris Horn, Allen Crenshaw, Robert J. Rowe.

Memorial Services.—J. H. Herndon, Chairman; Paul Thomas, E. R. Hayes.

Scientific Exhibits.—Eugene E. Mason, Chairman.

Technical Exhibits.—Arvel E. Haley, Chairman.

Halls and Lanterns.—Manning B. Shannon, Chairman.

Publicity.—Frank H. Kidd, Chairman.

Golf.—Robert F. Short, Chairman; Manning B. Shannon, Frank Selecman, J. H. McCracken, Jr.

Inquiries relative to local matters can be sent to the committee chairman named or to Dr. Altman, 202 West Tenth, Dallas.

Members of the Association wishing to offer scientific exhibits or motion pictures for the annual session are reminded to communicate at their earliest convenience with Dr. James D. Murphy, 1515 Medical Arts Building, Fort Worth. Assignment of scientific exhibit space cannot be made after February 25, and all motion pictures must be approved by a reviewing committee at the Library of the Texas Medical Association, 700 Guadalupe, Austin, by that date.

The Council on Scientific Work met in Austin on January 13 to consider the programs for the general meetings and the scientific programs arranged by section officers. Except to fill vacancies which may occur because of emergencies, no more contributions for the scientific program can be accepted this year.

State Prize for Essays Announced

Announcement of a $250 prize to be awarded by the Texas Medical Association for the best Texas entry this month spurred interest in the 1952 national essay contest sponsored by the Association of American Physicians and Surgeons. A national first prize of $1,000 will go to the high school student submitting the best essay on "Why the Private Practice of Medicine Furnishes This Country with the Finest Medical Care."

Among the first Texas groups reporting sponsorship of local contests in conjunction with state and national awards were the county societies of Bee-Live Oak-McMullen, Potter, and Tarrant. Other contests are being sponsored by woman's auxiliaries in Angelina, Brazoria, Harris, Jefferson, Kerr - Kendall - Gillespie - Bandera, Nacogdoches, Orange, Travis, and Wharton-Jackson-Matagorda-Fort Bend. Addi-

tional locally sponsored contests are being reported regularly to Drs. Mal Rumph, Fort Worth, and Charles D. Reece, Houston, state co-chairmen for the AAPS contest.

Rules for the contest are as follows:

1. Junior and senior high school students (seventh through the twelfth grades) from all public and parochial schools except sons and daughters of physicians are eligible to enter.
2. Essays must be limited to 1,500 words.
3. Essays should be written on one side of letter size paper (8½ by 11 inches) and if typewritten, double spaced.
4. Essays must be submitted on or before March 1 to (a) the county medical society or auxiliary sponsoring the contest or (b) one of the state chairmen, Dr. Rumph or Dr. Reece.
5. The first three prize winning essays from each county medical society must be sent to the state chairmen on or before March 15 to compete for state awards.
6. The first three prize winning essays from Texas will be sent to the Association of American Physicians and Surgeons on or before April 1 to compete for national awards.
7. Compositions must be original and should be well documented.
8. Judging will be based solely on knowledge and grasp of the subject supported with documentation and sound logical conclusions.
9, Judges for county, state, and national contests will be a physician, an educator, and another person, all of whom shall have some special knowledge of the subject.

Package reference libraries to be made available to the various schools taking part in the local contests may be obtained by writing to Mr. Harry Northam, Executive Secretary of the AAPS, 360 North Michigan Avenue, Chicago 1.

County medical societies and auxiliaries which wish to sponsor these contests should work out arrangements with their local school officials. Additional information may be obtained from Dr. Rumph, 705 Medical Arts Building, Fort Worth, or Dr. Reece, Hermann Professional Building, Houston.

COUNTY SOCIETIES

Austin-Waller Counties Society

October 9, 1951

Orthopedics—Joseph Barnhart, Houston.

Members of the Austin-Waller Counties Medical Society met in Sealy on October 9 with Dr. and Mrs. J. J. Hopkins, Brookshire, as hosts. Eighteen persons, including wives of the members, heard Dr. Barnhart speak after dinner.

Baylor-Knox-Haskell Counties Society

October 16, 1951

The annual Ladies Night meeting of Baylor-Knox-Haskell Counties Medical Society was held October 16 at J. W. Foy's cabin on Lake Kemp. After a chuck wagon supper there, the doctors' wives returned to the E. H. Balch home in Seymour and the members of the society conducted their business and scientific meeting in Dr. Foy's cabin. Special guests were Dr. and Mrs. O. H. Trimble, Wichita Falls, and Dr. Trimble was a speaker.

Brooks-Duval-Jim Wells Counties Society

September 25, 1951

(Reported by Edwin P. Virgin, Secretary)

A luncheon and tumor clinic conference was held by the Brooks-Duval-Jim Wells County Medical Society in Alice on September 25.

Newly elected officers of the society are as follows: William Newkirk, Alice, president; J. M. Moet, Orange Grove, vice-president; E. P. Virgin, Alice, secretary and treasurer; A. M. Allison, Alice, delegate; P. S. Joseph, Alice, alternate; and Lamar Behrns, J. H. Strickland, and J. H. Williams, Alice, censors.

Colorado-Fayette Counties Society

October 30, 1951

At a regular meeting of Colorado-Fayette Counties Medical Society in Columbus on October 30, it was unanimously decided not to accept the invitation to join the Beaumont Blood Bank area. Considerations were that Colorado and Fayette Counties are closer to the already established blood banks in Waco and Houston. The society went on record as approving the collection of blood for the use of the Armed Forces, however, and formed a committee to support the blood donor program.

Eastland-Callahan-Stephens-Shackelford-Throckmorton Counties Society

November 27, 1951

(Reported by W. P. Watkins, Secretary)

Some Injuries to the Lower Extremity—Rex J. Howard, Fort Worth.
Recent Advances in Neurologic Diagnosis—F. C. Rehfeldt, Fort Worth.
Common Fundi Lesions—James C. Whittington, Eastland.

The program outlined above was presented at the meeting November 27 in Cisco of Eastland-Callahan-Stephens-Shackelford-Throckmorton Counties Medical Society. Elected to office for 1952 were D. Ball, Cisco, president; H. W. Hollingsworth, Breckenridge, vice-president; W. P. Watkins, Ranger, secretary and treasurer; R. W. Evans, Clyde, censor; P. M. Kuykendall, Ranger, delegate; and J. H. Caton, Eastland, alternate.

Ellis County Society

December 12, 1951

(Reported by W. P. Ball, Jr., Secretary)

At the December 12 meeting in Waxahachie the Ellis County Medical Society held election of officers. The following were named: R. A. Jones, president; J. B. Jenkins, vice-president; W. P. Ball, Jr., secretary; S. H. Watson, delegate; Herbert Donnell, alternate; and E. F. Baker, censor. Dr. Baker is of Ennis; the other officers are of Waxahachie.

Gray-Wheeler-Hansford-Hemphill-Lipscomb-Roberts-Ochiltree-Hutchinson-Carson Counties Society

November 20, 1951

(Reported by Raymond W. Laycock, Secretary)

Coronary Artery Disease—C. S. Huntington, Bartlesville, Okla.

After a dinner November 20 in Borger, Dr. Huntington, speaker on the topic named above, was introduced by R. E. Elvins, Phillips. A lengthy question period was held afterward. Twenty-two persons attended.

The society was informed that the 1952 meeting of the Third District, North, had been set for Pampa, the date to be announced later.

W. C. Barksdale, Borger, of the military procurement committee, asked for opinions as to the essentiality of certain members. The committee is to procure blanks regarding previous military service for members to file with the secretary.

Grayson County Society

December 11, 1951

(Reported by G. S. Rowlett, Jr., Secretary)

The Mechanism of the Electrocardiogram—Harry Shytles, Jr., and L. J. Collins, Jr., Sherman.

After dinner December 11 in Denison the Grayson County Medical Society held its regular monthly meeting and elected officers as follows: Robert W. Duncan, Denison, president;

W. B. Mize, Sherman, vice-president; L. A. Flohr, Denison, secretary-treasurer.

Dr. Shytles presented a paper, the title of which is given above.

Gregg County Society

The following physicians were elected as officers for 1952 for Gregg County Medical Society: Bain Leake, president; Charles Bloom, vice-president; and Joe A. Walker, secretary. All officers are from Gladewater.

Hardin-Tyler Counties Society

October 16, 1951

Guest speakers for the meeting October 16 in Kountze of Hardin-Tyler Counties Medical Society were William Seybold and William Leary, assistant professors of surgery at Baylor University College of Medicine, Houston. They were introduced by Ben H. Bayer, also of Houston.

Harris County Society

October 10, 1951

Changes in Medical Practice—R. B. Robins, Camden, Ark.

At the October 10 meeting in Houston of Harris County Medical Society, Dr. Robins, vice-president of the American Medical Association and president-elect of the American Academy of General Practice, spoke on public relations for the medical profession. He is professor of medical economics at the University of Arkansas School of Medicine and has been national Democratic committeeman from Arkansas for ten years.

Harrison County Society

December 11, 1951

(Reported by H. O. Padgett, Secretary)

Officers of Harrison County Medical Society elected at the December 11 meeting in Marshall are as follows: H. O. Padgett, president; C. H. Heidelberg, vice-president; Philip Crayton, secretary-treasurer; M. H. Murphy, censor; R. G. Granbery, delegate, and Malcolm McNatt, alternate. All officers are from Marshall.

Henderson County Society

December 3, 1951

(Reported by Ralph R. Buie, Secretary)

The Henderson County Medical Society held its annual meeting in the home of Dr. and Mrs. Don Price, Athens, and a dinner was served. Of special note was that every member was present for the meeting. Elected for the 1952 fiscal year were the following: Don Price, president; L. L. Cockerell, vice-president; and Ralph R. Buie, secretary-treasurer. All officers are of Athens.

Hidalgo-Starr Counties Society

October 4, 1951

Cancer Problems—W. E. Whigham, McAllen.

Dr. and Mrs. Paul Frenzel, McAllen, and Dr. and Mrs. Barney B. Prestridge, Donna, were hosts for the dinner meeting of Hidalgo-Starr Counties Medical Society in Donna on October 4. Dr. Whigham addressed the doctors on cancer problems, and the auxiliary, holding a separate meeting, heard a representative from Sherwin-Williams Company in Brownsville speak on "Color Schemes in Decoration."

Jasper-Newton Counties Society

October 24, 1951

Members of the Jasper-Newton Counties Medical Society and Auxiliary were entertained at a dinner October 24 at the Southwestern Settlement and Development Corporation camp near Spurger. Mr. J. W. Pedigo, Jasper representative of the corporation, was host.

Jefferson County Society

(Reported by E. Mittendorf, Executive Secretary)

To serve as officers of Jefferson County Medical Society for 1952 are the following: W. Price Killingsworth, Port Arthur, president; H. Grady Bevil, Beaumont, president-elect; Seab J. Lewis, Beaumont, vice-president; John W. Sloan, Port Arthur, secretary-treasurer; J. C. Crager, Beaumont, and L. C. Carter, Port Arthur, delegates; Lamar C. Bevil, Beaumont, and Paul R. Meyer, Port Arthur, alternates; and R. C. Willoughby, Groves, Walter E. McRee, Port Arthur, and C. H. Hendry, Beaumont, censors.

Kerr-Kendall-Gillespie-Bandera Counties Society

November 12, 1951

(Reported by Dor W. Brown, Jr., Secretary)

Fractures of the Upper Extremities—John Hinchey, San Antonio, and Phillip L. Day, San Antonio.

The scientific program noted above was presented at the November 12 meeting of the Kerr-Kendall-Gillespie-Bandera Counties Medical Society in Kerrville.

W. E. Gregg, Kerrville, reported on the society's public relations program. Further discussion was postponed until the January, 1952, meeting.

Correspondence from the San Antonio Nursing Society, Bonham Veterans Hospital, State Selective Service Committee, American Geriatrics Society, and the Association of American Physicians and Surgeons were read.

December 10, 1951

(Reported by Dor W. Brown, Jr., Secretary)

Brain, Spinal Cord, and Cranial Nerve Lesions (colored motion picture)—Lewis Helfer, San Antonio.

The Kerr-Kendall-Gillespie-Bandera Counties Medical Society met in Fredericksburg on December 10 for dinner, with fourteen members and four guests present. Dr. Helfer, a San Antonio neurosurgeon, led the discussion on the topic above, and the motion picture mentioned dealt with patients displaying abnormal neurologic symptoms.

The secretary's kit from the Texas Medical Association was presented and a letter relative to the disposition of the log containing the society's minutes from the original meeting to the present was read. The secretary also read a letter from E. M. Cyrus, Jr., Fort Worth, concerning speakers for society meetings.

Elected to office for 1952 were David McCullough, Kerrville, president; Judd Kirham, Legion, vice-president; Russell E. Guill, Kerrville, secretary; Hugh Drane, Hunt, treasurer; D. R. Knapp, Kerrville, delegate; and C. B. Matthews, Kerrville, alternate.

Lamar County Society

November 1, 1951

(Reported by Thomas E. Hunt, Jr., Secretary)

Calcific Aortic Stenosis—John Kelsey, Paris.

The above scientific program was presented at the meeting November 1 of the Lamar County Medical Society.

Clarence Gilmore reported on a request from the board of health regarding fluoridation of the city water supply. The society voted to endorse fluoridation in the proper amount.

December 6, 1951

(Reported by Thomas E. Hunt, Jr., Secretary)

The Lamar County Medical Society held its annual Christmas dinner honoring wives of members December 6 at the Paris Golf Club with thirty-five present. After dinner the doctors held a short business session, at which a charter was adopted and the following were elected to office: George Woodfin, president; Thomas E. Hunt, Jr., vice-president; John Kelsey, secretary-treasurer; O. W. Robinson, delegate;

N. L. Barker, alternate; and C. M. Townsend, censor. All officers are of Paris.

Lubbock-Crosby Counties Society

December 3, 1951

(Reported by John B. Rountree, Jr., Secretary)

Relation of Sympathectomy on Peripheral Vascular Diseases (lantern slides)—LeRoy Kleinsasser, Dallas.

Mina D. Watkins, president, called the December 3 meeting in Lubbock of Lubbock-Crosby Counties Medical Society to order, with about thirty members present. William Follett Anderson and Thomas Luceine Talber were accepted as members upon application.

J. D. Donaldson, Jr., reported for the public relations committee its recommendation that an emergency call service for members be made the immediate project for the society. His motion was seconded and carried.

New officers were elected as follows: W. H. Gordon, president; John B. Rountree, Jr., vice-president; Wallace I. Hess, secretary; Clyde Elkins, Jr., treasurer; Roy G. Loveless, censor; and A. G. Barsh, alternate, all of Lubbock.

The scientific paper mentioned above was given.

Nueces County Society

December 11, 1951

(Reported by H. A. Kennedy, Secretary)

The Nueces County Medical Society held its regular meeting in Corpus Christi on December 11 with sixty-five members and two guests in attendance. Election of officers for 1952 was held with the following results: Franklin Yeager, president; M. C. Kendrick, president-elect; Walter C. Brown, vice-president; H. A. Kennedy, secretary; W. E. Morris, treasurer; J. F. Pilcher, delegate; Y. C. Smith, alternate; L. C. Arnim, censor; and Paul Gray, cancer clinic director. All officers are from Corpus Christi.

The motion that assets and liabilities of the society's blood bank, including an uncashed check for $400 from Memorial Hospital, be turned over to Memorial Hospital carried. A letter from the local chapter of the National Council of Jewish Women, regarding the loan of sick room equipment, and excerpts from the Secretary of the A.M.A., regarding an office plaque and fellowship dues, were read.

The reports of the outgoing president, secretary, and treasurer and committees were given. The president's report was incorporated in the minutes, and Jerome Nast, the retiring president, was given a standing vote of thanks. The motion that an executive secretary be employed carried.

Dr. Yeager, the incoming president, outlined his aims for the year.

Edwin Ben Groner and Joseph G. Pasternack were accepted as members by application.

Potter County Society

December 10, 1951

(Reported by Mrs. Cassie Atherton, Executive Secretary)

The Potter County Medical Society met in regular session December 10 in Amarillo. A dinner preceded the meeting.

The secretary read a financial report and committees reported. A letter from Mal Rumph, Fort Worth, co-chairman for the Association of American Physicians and Surgeons essay contest for Texas, was read, after which the society voted that the president appoint a committee to organize the contest locally.

The following officers for 1952 were elected: Gaylord R. Chase, president; Emil P. Read, vice-president; William J. Campbell, secretary-treasurer; William Klingensmith, Sr., George M. Waddill, and Howard Puckett, censors; A. E. Winsett, delegate; R. R. Swindell, alternate; and Howard M. Bordelon, editor of the *Bulletin*. Mrs. Cassie Atherton was renamed executive secretary. All officers are of Amarillo.

Reeves-Ward-Winkler-Loving-Culberson-Hudspeth Counties Society

October 24, 1951

Otto Munk, Monahans, reported on the recent meeting of the Southwestern Medical Association in El Paso when members of the Reeves-Ward-Winkler-Loving-Culberson-Hudspeth Counties Medical Society convened in Monahans on October 24. The presentation of the charter authorized by the Texas Medical Association was another highlight of the session.

Tarrant County Society

November 20, 1951

(Reported by W. P. Higgins, Jr., Secretary)

Tumors of the Larynx—Gatlin Mitchell, Fort Worth.
Clinical Use of Radioactive Isotopes—E. R. Kyger, Edgar W. Spackman, Donald Bernhardt, and Charles T. Ashworth, Fort Worth.
Indoctrination Lecture—R. G. Baker, Fort Worth.

The meeting November 20 in Fort Worth of Tarrant County Medical Society was called to order by the president, J. F. McVeigh, with 75 members and 3 visitors present. The scientific program was announced by M. C. Archer, program chairman for the meeting, and was presented as outlined above.

The establishment of a local committee for study in the clinical use of radioactive isotopes was discussed by Dr. Kyger. Dr. Spackman told of their therapeutic use, Dr. Bernhardt elaborated on the use of radioactive iodine and phosphorus in diagnosis, and Dr. Ashworth presented clinicopathologic considerations.

Dr. Baker, Councilor of the Thirteenth District, gave a lecture dealing with medical ethics and public relations. Tribute was paid Mrs. George Bond, the mother of Tom Bond, who died November 15.

William H. Teague was accepted as a member by transfer from Hale-Floyd-Briscoe-Swisher Counties Medical Society.

The motion was made by Gatlin Mitchell and seconded by Hobart O. Deaton that a constitutional amendment making payment of A.M.A. dues obligatory be referred to the Board of Councilors at their next meeting and that 1952 dues be included in the statements sent by the county society secretary on January 1. The motion carried.

The nominating committee, with Hobart O. Deaton as chairman, made recommendations for new officers.

December 4, 1951

(Reported by W. P. Higgins, Jr., Secretary)

One hundred nineteen members of Tarrant County Medical Society attended the December 4 meeting in Fort Worth. Reports of officers and committees were given and the following elected to office for the coming year: William M. Crawford, president-elect; J. A. Hallmark, vice-president; W. P. Higgins, Jr., secretary-treasurer; R. G. Lemon, censor; W. B. West, trustee; Theron Funk and James D. Murphy, delegates; and Robert D. Bickel and J. H. Steger, alternates. Hub E. Isaacks will serve as president.

Accepted to membership by application were Percy L. Cook, Chester A. Farris, Jr., Charles P. Hargis, Joe T. Nelson, and Edwin B. Wilson, Jr. The memberships of Earl D. McDonald from Dallas County Medical Society and of Edmund N. Walsh from Bell County Medical Society were transferred.

Travis County Society

November 20, 1951

Symposium: Splenic Disease with Case Presentations
Portal Hypertension—J. E. Kreisle and John F. Thomas, Austin.
Hypersplenism—H. L. Klotz, Joe T. Gilbert, and J. E. Johnson, Austin.

At the meeting November 20 of the Travis County Medical Society, the above program was presented.

Washington County Society

September 27, 1951

Two Houston physicians, M. D. Burnett, Jr., and Luke W. Able, were guest speakers at the regular monthly meeting of Washington County Medical Society September 27 in Brenham. They presented a case report to the local doctors and dentists who attended.

Webb-Zapata-Jim Hogg Counties Society

December 4, 1951

(Reported by A. S. McGee and Herbert L. Warres, Secretaries)

Hip Prostheses Using Plastics—John J. Hinchey and Phillip L. Day, San Antonio.

At the December 4 meeting in Laredo two physicians, Leonides Gonzales Cigarroa and his wife, Margaret Gilles Cigarroa, were elected to membership in the Webb-Zapata-Jim Hogg Counties Medical Society.

The following were elected to office: Albert C. King, president; M. E. Malakoff, vice-president; Herbert L. Warres, secretary-treasurer; John Lowry, J. L. Crawford, and Ruby Lowry, censors; Enrique M. Longoria, delegate; and Aubrey S. McGee, alternate. All officers are of Laredo.

Wharton-Jackson-Matagorda-Fort Bend Counties Society

December 11, 1951

(Reported by Lorraine I. Stengl, Secretary)

The annual Christmas party of Wharton-Jackson-Matagorda-Fort Bend Counties Medical Society was held with the auxiliary in Wharton on December 11.

At the business meeting which followed officers were elected as outlined below: Robert E. Leslie, El Campo, president; Dennis Voulgaris, Wharton, vice-president; Lorraine I. Stengl, El Campo, secretary-treasurer; Leonard Johnson, El Campo, delegate; Harold Northington, Wharton, and R. G. Johnson, New Gulf, alternates; and Joe C. Much, Richmond, censor.

DISTRICT SOCIETIES

Fourth District Society

November 14, 1951

Members of the Fourth District Medical Society met November 14 in Brady. Allen T. Stewart, Lubbock, President of the Texas Medical Association, addressed the assemblage after the invocation by Jay W. Channell, minister of the Brady Church of Christ, and the address of welcome by Mayor J. Earl Rudder, Brady. About forty-five doctors attended.

Participants in the morning and afternoon programs included Don W. Chapman, associate professor of internal medicine; Denton Cooley, instructor in surgery; Harold Wood, associate professor of pathology; Walter Stork, assistant professor of clinical radiology; and Robert A. Hettig, associate professor of internal medicine. All physicians named are on the staff of Baylor University College of Medicine, Houston.

After a luncheon with wives of the members as guests, the doctors reconvened for a tumor conference and a business meeting.

Elected for 1952 were the following officers: B. A. Hallum, Jr., Brady, president, and Lloyd Hershberger, San Angelo, secretary. The 1952 meeting will be held in San Angelo.

AUXILIARY SECTION

AUXILIARY NEWS

Angelina County Auxiliary

The Woman's Auxiliary to the Angelina County Medical Society held a called meeting August 24 in the home of the president, Mrs. A. E. Percy, Lufkin. The eight members who were present discussed public relations, the nurse recruitment kit, and civil defense courses.

The first regular meeting of the year was held September 25 in the home of Mrs. Percy, with Mrs. J. R. Dale, Diboll, as co-hostess. A social hour was held after the business session.

The October 30 meeting was held with members of the Angelina County Medical Society as guests in the home of Dr. and Mrs. Felix Peebles, Lufkin. Elwyn Gipson spoke on "Civil Defense," and Mrs. O. W. Robinson, Paris, President of the State Auxiliary, gave a short message on the benefits of civil defense. Dr. C. W. Evans, Lufkin, showed the motion picture "A-Bomb." A buffet supper was served to twenty-seven persons.

The home of Mrs. M. A. Estep, Lufkin, was the meeting place for November for the Angelina County Auxiliary. The meeting was attended by nine members. Mrs. A. E. Percy, president, stated that posters for nurse recruitment would be placed in the library, schools, and city and school buses. Mrs. W. D. Thames, Jr., Lufkin, reported that 18 subscriptions to *Today's Health* and 5 to the *Bulletin* had been sold. The auxiliary plans to show a motion picture on drug addiction among high school students to the students in Lufkin and other high schools in the county.

Mrs. Ada Smith gave a talk on the x-ray survey, stating that Angelina County bears the expenses of the mobile unit. Members of the auxiliary will assist in the project.—Mrs. J. H. Alexander.

Bell County Auxiliary

Mrs. O. W. Robinson, Paris, President of the Woman's Auxiliary to the Texas Medical Association, was speaker and an honor guest at the dinner meeting December 14 in Temple of the Bell County Auxiliary. Also honored were Mrs. V. M. Longmire, state first vice-president; Mrs. L. R. Talley, president of the Twelfth District Auxiliary; and Mrs. J. Bartow Talley, county auxiliary president, all of Temple.

Mrs. Robinson urged members to engage in individual service, participate in civic affairs, pay poll taxes, be vigilant in voting, and work in nurse recruitment. She emphasized constructive thinking followed by action.

Mrs. Talley reported that the county auxiliary will sponsor a contest among high school students for the best essay

Officers of the Woman's Auxiliary to the Texas Medical Association: President, Mrs. O. W. Robinson, Paris; President-Elect, Mrs. Robert F. Thompson, El Paso; First Vice-President (Organization), Mrs. V. M. Longmire, Temple; Second Vice-President (Physical Examinations), Mrs. John H. Wootters, Houston; Third Vice-President (Today's Health), Mrs. R. T. Travis; Jacksonville; Fourth Vice-President (Program), Mrs. Cecil O. Patterson, Dallas; Recording Secretary, Mrs. E. W. Coyle, San Antonio; Treasurer, Mrs. John D. Gleckler, Denison; Corresponding Secretary, Mrs. Clarence E. Gilmore, Paris; Publicity Secretary, Mrs. A. H. Neighbors, Sr., Austin; Parliamentarian, Mrs. T. Herbert Thomason, Fort Worth.

on "Why the Private Practice of Medicine Furnishes This Country with the Finest Medical Care."

Bexar County Auxiliary

The Bexar County Medical Society and the Auxiliary entertained new members with a harvest time dinner dance October 20 at Oak Hills Country Club, San Antonio. Mrs. Leon Kopecky and Mrs. S. Foster Moore, Jr., had charge of the party, Mrs. John B. Case, invitations, and Mrs. James L. Mims, Jr., decorations.

On November 9 at a luncheon meeting the Auxiliary heard Mr. C. H. Dodds, executive secretary of the Children's Service Bureau, speak on "Protection Services for Children in Bexar County."

The Auxiliary is sponsoring the Children's Shelter this year. Mrs. A. O. Severance and Mrs. Ernest A. Maxwell are in charge of entertaining the children at the Shelter; three mornings a week are spent playing with and reading to them. In charge of other parts of the project are Mrs. Jack Watts and Mrs. W. H. Hargis, mending and sewing clothes; Mrs. John N. Worsham, renovating; Mrs. R. F. Gossett and Mrs. Horace C. Sweet, transportation; and Mrs. Charles Tennison and Mrs. August F. Herff, grounds. The first time that the Auxiliary members met to mend clothes, 150 garments were mended.

The Auxiliary members entertained their husbands with a Christmas dinner dance December 7 at the San Antonio Country Club. Mrs. John C. Parsons was chairman of the decorations committee, and the Christmas theme was carried out in the decorations. Mrs. Horace C. Sweet was in charge of the party; Mrs. A. O. Severance took care of reservations, Mrs. L. Bonham Jones, invitations, Mrs. Graham Coffman, entertainment; and Mrs. Dean Jones, refreshments.

Bowie and Miller Counties Auxiliaries

Mrs. O. W. Robinson, Paris, President of the Woman's Auxiliary to the Texas Medical Association, and Mrs. James G. Martindale, Hope, Ark., president of the Arkansas State Auxiliary, were honored at the October 19 meeting in Texarkana of the Bowie and Miller Counties Auxiliaries.

Mrs. E. T. Ellison, Texarkana, president of the local auxiliary, presided. Hostesses for the luncheon were Mesdames William Hibbitts, Roy Baskett, P. H. Phillips, Robert Gassler, and C. A. Smith. Mrs. Phillips is of Ashdown, Ark.; the other hostesses are of Texarkana.

Mrs. A. A. Little, Texarkana, introduced Mrs. Martindale, who spoke on rural health. Mrs. Robinson, who was introduced by Mrs. Hibbitts, past-president of both state auxiliaries, discussed the national and state objective of the auxiliary, stressing public relations. Thirty-two members and four guests were present.—Mrs. C. H. Frank, Chairman of Texas Public Relations.

Cherokee County Auxiliary

Dr. Harbert Davenport, Jacksonville, spoke on "The Importance of Medical Education in the Physician's Public Relations" at the October 23 meeting in Jacksonville of the Cherokee County Auxiliary. Mrs. F. H. Verheyden was hostess in her home, and Mrs. J. T. Boyd, president, presided. Refreshments were served to sixteen persons.

Denton County Auxiliary

The Denton County Auxiliary met with Mrs. George Hinkle, Denton, for luncheon October 10, with Mrs. David Thomas, Denton, and Mrs. Paul E. Weathers, Pilot Point, as co-hostesses. Twenty-three members and guests attended.

Galveston County Auxiliary

The Woman's Auxiliary to the Galveston County Medical Society held its annual fall tea November 20 at the home of Mrs. William B. Potter, Galveston. Honored were members of the Medical Dames, an organization of the wives of students and women students of the University of Texas School of Medicine.

In the receiving line with Mrs. Potter were Mrs. Charles Robert Allen, president of the Auxiliary; Mrs. William Stout, president of the Medical Dames; and Miss Mildred Marshall, president of Alpha Epsilon Iota, women's medical fraternity. Mrs. E. S. McLarty was chairman of arrangements for the tea.

The annual Christmas party, a cocktail dinner dance, was held at the Buccaneer Hotel, Galveston, on December 8. Music was by Tommy Leatherbury and his orchestra.

Mrs. John L. Otto and Dr. John McGivney were in charge of arrangements.—Mrs. M. A. Caravageli, Recording Secretary.

Grayson County Auxiliary

Dr. Earl Williams, oral surgeon and humorist, gave an address and performed sleight of hand tricks for members and guests of the Grayson County Auxiliary at a buffet dinner December 5 in Denison.

Mrs. S. O. Levin, Denison, president, presided at the meeting. Mrs. James Andrews, Sherman, and Mrs. Robert Pendergrast, Denison, were welcomed as new members.

The dentists' wives, associate members, were responsible for the program; Mrs. Jack McGee and Mrs. W. M. McFarland, Sherman, and Mrs. J. E. Meador, Denison, were in charge of decorations. The clubrooms and tables were decorated in the Christmas motif.

Approximately 80 persons attended. Mrs. Williams was presented a gift.—Mrs. F. M. Sporer, Secretary.

Harris County Auxiliary

The Woman's Auxiliary to the Harris County Medical Society honored new members and their husbands with the annual Christmas dinner dance December 19 at the Houston Country Club.

Chairman of arrangements was Mrs. Robert K. Blair with Mrs. C. Forrest Jorns as co-chairman. Mrs. Val C. Baird, Mrs. Albert M. Dashiell, Mrs. J. Charles Dickson, Mrs. N. A. Kilgore, Mrs. C. Alsworth Calhoun, Mrs. Harry B. Burr, Mrs. Claude Cody, III, and Mrs. J. Norris Tucker were hostesses.

Greeting guests were Dr. and Mrs. Henry R. Maresh, Dr. and Mrs. J. Peyton Barnes, Dr. and Mrs. C. Forrest Jorns, Dr. and Mrs. Byron P. York, and Dr. and Mrs. Robert K. Blair.—Mrs. Norborne B. Powell, Publicity Secretary.

Lamar County Auxiliary

The Lamar County Medical Society entertained members of the auxiliary and elected new officers at a dinner and annual business meeting December 6 at the Paris Golf Club.

Dr. O. W. Robinson welcomed auxiliary members to the meeting and Mrs. C. E. Gilmore, president of the auxiliary, responded. Dr. R. L. Lewis reviewed briefly recent speeches by Senators Byrd and Taft on socialized medicine.

Decorations arranged by Mrs. E. P. Dickson, Mrs. George Woodfin, and Mrs. Gilmore carried out the Christmas theme. Thirty-five guests attended.—Mrs. W. L. Kelley.

Travis County Auxiliary

The Woman's Auxiliary to the Travis County Medical Society met with Mrs. William M. Gambrell, Austin, on December 11. They heard Mrs. Blanch Counts of the Child and Family Service describe what is done at Christmas with the money given by the medical auxiliary to the Service. She stated that four weeks prior to Christmas, plans are made, keeping in mind the individual needs of the families and children in boarding homes.

Mrs. G. E. Tipton, chairman of the philanthropic com-

mittee, reported that the money set aside for philanthropic causes at Christmas other than that given the Service would be used to purchase twenty-six presents to be delivered by the committee to the aged in nursing homes in Austin.

Members of the hostess committee were as follows: Mesdames G. E. Tipton, Sam Wilborn, chairmen; and Burford Hahn, E. L. Yeakel, Sam Todaro, B. C. Bates, C. E. Carter, George Clark, W. F. Creel, R. O. Hunter, Jerome Ravel, B. O. White, H. B. Henry, Joe Bailey, J. W. E. H. Beck, Charles Hardwicke, and Hugo Auler.—Mrs. T. N. Watt.

DEATHS

J. B. WRIGHT

Dr. James B. Wright, Weatherford, Texas, died October 25, 1951, of a heart attack.

Dr. Wright was born in Robinson County, Ill., April 15, 1876, the son of Dr. James B. Wright, Sr., a surgeon in the Confederate Army, and Elizabeth Ann (Higgins) Wright. Receiving his early education in the schools of Collin County, Dr. Wright attended Sam Houston State Teachers College, Huntsville, received his doctor of medicine degree at Memphis Hospital Medical College in 1903, and took postgraduate work at Tulane Medical School, New Orleans. He practiced in Oklahoma, New Mexico, and in

DR. JAMES B. WRIGHT

several Texas towns: Climax, Hunt, Princeton, Farmersville, Westminster, and Red Rock. He participated in Civil Conservation Camp duty for two years. Dr. Wright began his practice in Weatherford in 1941 and was active until his death.

For many years Dr. Wright held membership in the American Medical Association and the Texas Medical Association through several county societies including Collin, Bastrop, Karnes-Wilson, and Palo Pinto-Parker Counties Societies. He was a member of the Church of Christ.

Dr. Wright married Miss Sallie Price who died in 1901 as did his son Edward. In April, 1905, Dr. Wright married Miss Mary Minerva Glass in Farmersville. Dr. Wright is survived by his wife, a daughter, Mrs. E. R. Mobley, San Antonio; and three sons, J. B. Wright, Jr., technical sergeant, Ladd Air Force Base, Fairbanks, Alaska; Marion Fendall Wright, Houston; and Fred G. Wright, Corpus Christi; a sister, Mrs. R. L. Gray, Royse City; a brother, W. W. Wright, Royse City; seven grandchildren; and several nieces and nephews.

An obituary ordinarily will not be published more than four months after date of death. Cooperation in reporting deaths of physicians and in furnishing appropriate biographical material promptly is solicited.

W. W. RALSTON

Dr. W. Wallace Ralston, Houston, Texas, died of a cerebral hemorrhage on November 3, 1951, in the Houston Eye, Ear, Nose, and Throat Hospital which he helped found.

The son of Joseph C. Ralston and Lucy (Kirby) Ralston, Dr. Ralston was born in Hempstead June 8, 1875. He attended Austin High School and the University of Texas, where he was captain of the school's first football team, and was graduated in 1899 from the University of Texas School of Medicine, Galveston. After serving an internship at St. Mary's Hospital, Dr. Ralston went to Vienna, Austria, where he studied two years under the eye specialists, Drs. Fuchs and Müeller, and was graduated from the University of Vienna in 1910. Upon his return, Dr. Ralston settled in Houston, where he specialized in diseases of the eye. He set

DR. W. WALLACE RALSTON

up the first system for medical supervision for the Houston Public School System in 1911.

During the Spanish-American War Dr. Ralston served as a pharmacist's mate and was aboard an American ship in operations against Morro Castle, the famous fortress cap-

tured in the harbor at Havana, Cuba. He served as a major during World War I.

Dr. Ralston was a member of the Texas Medical Association and a fellow of the American Medical Association. He held positions in the state organization as Councilor for the Ninth District, secretary of the Section on Eye, Ear, Nose, and Throat in 1910, 1914, and 1929; and was a past president of the Harris County Medical Society. He was certified by the American Board of Ophthalmology and was a member of the American Academy of Ophthalmology and Otolaryngology and the American College of Surgeons. One of three founders of the Texas Society of Ophthalmology and Otolaryngology, he was a past president of the society. Dr. Ralston also held membership in the Holland Lodge A. F. and A. M., Sigma Nu fraternity, Phi Alpha Sigma medical fraternity, the Scottish Rite bodies, Arabia Temple Shrine, the River Oaks Country Club, and the Houston Chamber of Commerce. While he was studying in Vienna, Dr. Ralston served as president of the American Medical Association of Vienna. He was an Episcopalian.

In 1904 in Lockport, N. Y., he married Miss Ella Kate McCollum, who survives. Other survivors are his four sisters, Mrs. B. T. Vanzant and Mrs. W. M. Brumby, Houston; Mrs. J. J. Good, Los Angeles; and Mrs. Margaret Reading, Austin; and several nieces and nephews.

E. W. BURNETT

Dr. Edgar Wills Burnett, Carrollton, Texas, died October 3, 1951, in a Dallas hospital.

Dr. Burnett was born October 17, 1871, in Ladonia. As a youth he worked as a printer in Dallas. He attended Carlton College in Bonham and was graduated from the old College

DR. EDGAR W. BURNETT

of Physicians and Surgeons, St. Louis, in 1897. He took a special course at the St. Louis Baptist Hospital during 1896 and 1897. For seventeen years he was on the medical staff of the Rusk State Hospital, serving two years as assistant superintendent and three years as superintendent. He practiced in Carrollton a total of thirty years prior to going to Rusk in 1930 and after leaving there in 1946. At Carrollton he was local surgeon for the Missouri-Kansas-Texas, Cotton Belt, and Frisco Railroads.

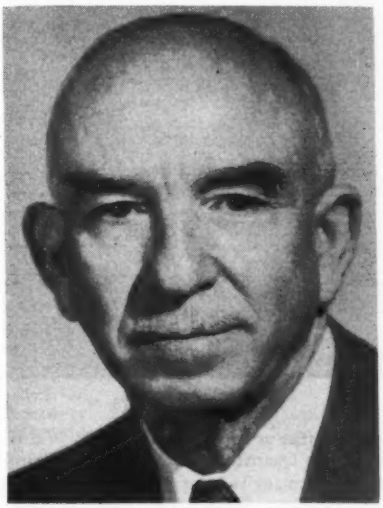
Elected to honorary membership in the Texas Medical Association in 1948, Dr. Burnett was affiliated with the county, state, and national medical organizations for many years. He was one of the first members of the Dallas Southern Clinical Society. He also was a Scottish Rite Mason.

Dr. Burnett is survived by his wife; a brother, Dr. Tom R. Burnett, Mission; and a half sister, Mrs. T. L. Coldwell, Dallas.

H. B. DU PUY

Dr. Howard Barham Du Puy, Dallas, Texas, died November 16, 1951, in a Dallas hospital of coronary occlusion.

Dr. Du Puy was born January 1, 1890, in Tennessee Colony, Texas. He attended Southwest Texas Normal College, San Marcos; received a bachelor of science degree from the University of Texas in 1915; and a doctor of medicine degree from the University of Texas School of Medicine in 1917. Dr. Du Puy interned at Santa Rosa Infirmary, San Antonio, and the hospital for special surgery maintained by



DR. HOWARD B. DU PUY

the New York Society for the Relief of the Ruptured and Crippled, New York. He did postgraduate work in Boston and New York. He practiced in Newark, N. J., for two years and from 1920 until his retirement in 1949, he practiced in Dallas, specializing in orthopedic surgery. Dr. Du Puy served as president of the orthopedic service of Children's Clinic and Parkland Hospital, Dallas. During World War I he was a lieutenant in the medical corps of the United States Army.

A member of the American Medical Association and an honorary member of the Texas Medical Association through Dallas County Medical Society, Dr. Du Puy was also a fellow of the American College of Surgeons and held membership in the Southern Medical Association and Dallas Southern Clinical Society, of which he was a charter member. From 1935 until 1943 he was a fellow of the American Society of Anesthesiology. Formerly Dr. Du Puy was a steward in the Methodist Church. .

Surviving are his wife, the former Miss Erma Kerr, whom he married on May 20, 1925, in Dallas; one daughter, Mrs. Robert W. Hare, Amarillo; a son, Howard R. Du Puy, Dallas; one sister, Mrs. R. R. Yelderman, Grand Island, Neb.; and one brother, W. H. Du Puy, Palestine.

L. ROBERTS

Dr. Lily Roberts, Fort Worth, Texas, died November 5, 1951, in a Fort Worth hospital after suffering a cerebral hemorrhage.

One of the first women physicians in Tarrant County, Dr. Roberts was born November 2, 1875, in Mobile, Ala., to Green Berry and Jenny Roberts. The family moved to Cameron, where Dr. Roberts received her early education. She studied in Dallas at the Physio-Medical College of Texas, which was later combined with the College of Medicine and Surgery of Chicago. Later she took postgraduate training in anesthesia and obstetrics in Chicago and also did work in New York. Dr. Roberts praeticed in Mineral Wells in 1907 until 1914, when she moved to Fort Worth, where she was associated with Dr. R. O. Braswell until his death. In 1932

DR. LILY ROBERTS

she opened an office at home. During World War II she was physician for the Quartermaster Department in Fort Worth.

A member for many years of the American Medical Association and the Texas Medical Association through Tarrant County Medical Society, Dr. Roberts was elected to honorary membership in the state association this year. She was a member of the Business and Professional Women's Club, the Rebecca and Royal Neighbors, and the Baptist Church.

Dr. Roberts is survived by three sisters, Mrs. Nora L. Coleman, Fort Worth; Mrs. Susan Stoneham, Abilene; and Mrs. Tom L. Hardin, Childress.

R. H. ENGLEDOW

Dr. Robert Hardie Engledow, Beaumont, Texas, died October 5, 1951, in a Beaumont hospital.

Born to Mr. and Mrs. O. E. Engledow in Mart on April 8, 1911, Dr. Engledow attended Sour Lake High School, received his bachelor of arts degree in 1931 from the University of Texas, and was graduated from the University of Texas Medical Branch in 1934. After serving an internship at John Sealy Hospital, Galveston, Dr. Engledow practiced for seven years in Anahuac, moving in 1942 to Beaumont. He was a general practitioner and was elected president of the hospital staff of the Beaumont Municipal Hospital in 1946.

Dr. Engledow was a member of the American Medical Association and the Texas Medical Association, serving as president of Liberty-Chambers Counties Medical Society in 1938 and secretary of Jefferson County Medical Society in 1951. He was a member of the Beaumont Club, the Country Club, and the Methodist Church.

On June 8, 1940, in Commerce, Dr. Engledow married Miss Sarah Thurman, who survives. Other survivors are his daughter, Rebecca Engledow, Beaumont; and his parents, Mr. and Mrs. O. E. Engledow, Sour Lake.

J. E. TYSON

Dr. Joseph Ellis Tyson, Texarkana, died October 16, 1951, in a Temple hospital of cardiovascular-renal disease.

Dr. Tyson was born May 4, 1896, in New Boston, the son of Mr. and Mrs. Joseph Cicero Tyson. He attended the public schools in New Boston and Texarkana, being graduated from Texarkana, Texas, High School. After attending Rice Institute, he took premedical training at the University of Texas and was graduated from the University of Texas Medical Branch in 1924. He left medical school for service in the United States Army during World War I, returning to Galveston for completion of his medical education. Dr. Tyson interned at Charity Hospital, Shreveport, and St. Joseph's Infirmary, Houston, after which he took postgraduate courses at Cook County Hospital, Chicago, and Tulane University, New Orleans.

He served two years in public health work with the Rockefeller Foundation at San Benito. During World War II, Dr. Tyson was appointed medical adviser and chief surgeon for the hospital of the Lone Star Ordnance Plant, Texarkana. He was also consulting surgeon for the Federal Correctional Institution, Texarkana, a position he held until

DR. JOE E. TYSON

the time of his death. He was commended by Tom Clark, then attorney general, for his work there.

A member of the American Medical Association for many years, Dr. Tyson also held membership in the Texas Medical Association through Bowie County Medical Society, which he served as president in 1937 and secretary in 1940. He was a member of the Miller County Medical Society, Arkansas Medical Society, Tri-State Medical Assembly, Southwestern Medical Association, Southwestern Surgical Congress, and the advisory committee of the Alumni Association of the University of Texas Medical Branch. Dr. Tyson was a member of the Optimist Club, Independent Order of Odd Fellows, Masonic Lodge, and the Methodist Church.

Dr. Tyson is survived by his wife; a son, Joseph Ellis Tyson, Jr.; a daughter, Miss Janet Tyson; and a sister, Mrs. M. E. Melton, all of Texarkana.